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MEDICAL DEPARTMENT

ANNUAL REPORT FOR 1955



COLONY OF SINGAPORE

REPORT OF THE MINISTRY OF HEALTH

for the year ended 31st December, 1955

BEING THE ANNUAL REPORT ON THE MEDICAL DEPARTMENT
BY THE DIRECTOR OF MEDICAL SERVICES
FOR THE YEAR
1955

*Presented by the Minister for Health to Legislative Assembly by
Command of His Excellency the Governor
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THE REPORT OF THE DIRECTOR OF MEDICAL SERVICES ON THE MEDICAL DEPARTMENT

For the Year Ended 31st December, 1955

INTRODUCTION

To: THE HONOURABLE A. J. BRAGA, M.L.A.,
MINISTER FOR HEALTH,
SINGAPORE.

Sir,

I HAVE THE HONOUR to submit a report on the state of the Medical and Health Services in Singapore for the year ended 31st December, 1955.

2. Elections under the new constitution for Singapore were held in April 1955, and in the same month you, Sir, assumed office as the first Minister for Health. This change of constitution and the transfer of policy direction to an elected member of the Legislative Assembly appointed as Minister represents the most far-reaching in its importance of all the events of 1955.

3. There has been no abatement of public demand for curative and preventive services and the figures of out-patients and in-patients attending our hospitals and clinics once again have topped all records:—

Year		Total In-patients in all hospitals	Total Out-patient Attendances
1938	...	35,400	87,447
1947	...	33,960	530,116
1951	...	46,514	562,449
1952	...	51,883	863,242
1953	...	58,818	1,111,582
1954	...	62,972	1,361,366
1955	...	67,450	1,541,632

4. To cope with this genuine need for rapid development and expansion of the medical and health services it is necessary not only to provide additional hospital beds and out-patient facilities, but it is even more essential to provide trained professional staff.

5. The recruitment and training of locally domiciled officers steadily is improving and in 1955 the position was better than ever before:—

(i) Medical Officers

The expansion of the Medical Faculty of the University of Malaya is proceeding and at the beginning of the 1955/56 academic year seventy-nine students were admitted to the first medical year. During 1955, forty-eight students graduated in medicine.

The Singapore Government recruited twenty-nine medical officers to the permanent service during 1955. All of these were local officers.

(ii) *Dental Officers*

The Dental Service had a staff of seventeen dental officers and five dental housemen at the beginning of the year; during the year four more dental officers were appointed.

(iii) *Nursing Staff*

Recruitment in all categories continued to be very satisfactory and was limited only by availability of teachers and accommodation.

General Training.—During 1955, 160 new student nurses were accepted for training; fifty-two nurses successfully completed their course and thirteen male nurses also qualified. The Student Nurses Hostel at the General Hospital is being enlarged so as to accommodate 450 students (150 in each year).

Tuberculosis Certificate.—At Mandalay Road Hospital thirteen students were admitted for Tuberculosis Nurse training; twenty-three nurses completed training and obtained the certificate. In addition two hospital assistants and one Sister obtained the certificate.

Midwives.—During 1955, twenty-eight nurses obtained their midwifery 'A' certificate and twenty-nine pupil midwives passed the 'B' certificate examination.

The completion of a new Hostel at Kandang Kerbau Hospital with accommodation for seventy-eight nurses and midwives has improved training facilities.

A domiciliary midwifery service, run from the hospital, commenced in August 1955, and thus the complete training of nurses, midwives and medical students has been provided for.

Assistant Nurses.—Seventy-five pupil assistant nurses were enrolled during 1955 and twenty-six completed training and obtained registration.

Mental Nursing.—The mental nurse training which started in September 1954, at the Woodbridge Hospital is proceeding. There were fourteen student mental nurses in training at the end of 1955.

Promotions.—Twelve staff nurses were promoted to Nursing Sisters during 1955.

Overseas Training.—Two staff nurses returned from ward administration courses in the United Kingdom. One staff nurse returned from a health visitor's course. One staff nurse returned from a Tuberculosis and Infant Welfare and ward administration course in Australia.

There were fourteen nursing staff overseas at the end of 1955.

(iv) *Sanitary Inspectors*

In 1955, twenty-eight students undertook the course of training for the Certificate of the Royal Society of Health. In addition, three students who had failed in the 1954 examination presented themselves for re-examination. Twenty-six were successful; of these six were from Singapore, seventeen from the Federation of Malaya and three from Sarawak.

The school now has been accommodated satisfactorily with adequate room for lectures, demonstrations and laboratory work.

(v) *Ancillary Personnel*

Eight almoners completed training in 1955 and were awarded the certificate of the Malayan Association of Almoners; of these five were Singapore Government, one from the Federation of Malaya and two private students from Singapore who paid for their own expenses.

Four officers were sent overseas for training as Radiographers.

Two officers were sent overseas for training as Physiotherapists.

6. On 31st December, 1955, the number of registered doctors, dentists and pharmacists in Singapore was as follows:—

		<i>Doctors</i>	<i>Dentists</i>	<i>Pharmacists</i>
Private Practitioners ...	...	280	33	73
Government ...	...	147	23	12
University (teaching staff) ...	...	25	10	—
City Council ...	...	20	—	—
Provisionally registered housemen ...	...	26	5	—
		<hr/>	<hr/>	<hr/>
Total ...		498	71	85
		<hr/>	<hr/>	<hr/>

7. It can be seen that for an estimated population of one and a quarter million, the number of medical practitioners still is insufficient; Singapore, nevertheless, is far better off than neighbouring territories. A more serious shortage in Singapore is of doctors trained and experienced in the various specialist spheres of medicine and surgery.

8. The Singapore Government has continued to provide bursaries for University training and to provide scholarships and training courses for post-graduate specialisation. During the academic year 1955/56 new bursaries or financial grants were awarded to twenty-seven medical students, two dental students and two pharmacy students. During 1955 eight doctors were sent for post-graduate education and paid for from public funds. This number compares with six in 1954.

9. With such arrangements made for the training of professional personnel of all categories, it has been possible to go forward with the planning for physical expansion and development of curative and preventive institutions. The Medical Plan for a capital building programme estimated at \$33½ million was approved in 1948. This plan was again revised in 1955 and the Medical Development Plan approved by the present Government provides for a programme bringing the total estimate to \$58 million.

10. Development and expansion of hospital services continued without break in 1955. In the **General Hospital** two notable events in the implementation of the Medical Plan were the opening of the new theatre block in April and the 'Mistri Wing' of the Children's Department in October. The theatre block includes two units each comprising a major theatre, twin theatres and a minor theatre, wards for first and second class patients, extensive accommodation for consulting rooms, etc. and teaching facilities for medical students. The work of reconstruction and redecoration of the surgical wards for the two general surgical units was completed. The 'Mistri Wing', named after the late N. R. Mistri, Esq. who donated almost the entire cost of the building, comprises four floors accommodating two pædiatric units each of 150 beds. The building is of modern architectural design and includes accommodation for admission units, wards for children aged six years to ten years, lecture rooms and administrative offices on the ground and first

floors, the upper two floors providing ward accommodation for those under six years of age. In July 1955, construction was commenced on an additional hostel to house two hundred student nurses and of a new Nurses Training School. The tender for the reconstruction of a three-storey building to accommodate the Ear, Nose and Throat Department was accepted late in the year. The ground floor will comprise an out-patient department together with consultation and specialist examination rooms and a lecture theatre; the first floor, ward accommodation and the top floor, a major theatre, a minor theatre and additional ward accommodation.

11. In the **Kandang Kerbau Maternity Hospital** extensions comprising a large Out-patient Department, a Maternity Wing of 116 beds, a Nurses and Midwives Hostel and quarters for House Doctors and Resident Students, were completed and handed over during 1955. On 10th August, 1955 the official opening ceremony of the new extension was performed by Lady Black, wife of His Excellency the Governor. The immediate effect of this extension has been to increase the bed strength from 240 to 316 beds, made up of fifty for gynæcological cases and the rest for maternity cases. The ultimate effect will be an increase to 450 beds, but this total cannot be achieved until the work of modernisation of the older hospital blocks will have been completed. On 24th October, 1955 one of the older wings was evacuated and handed over to the Public Works Department for remodelling into a gynæcological wing to contain 130 beds and two twin operating theatre suites.

12. The presently approved plan for the expansion of the **Tan Tock Seng Tuberculosis Hospital** provides for a modern chest hospital of 816 beds for the more acute cases of tuberculosis and provides for the retention of the present pavilion type wards for the more chronic open cases of pulmonary tuberculosis. Satisfactory progress was made in the construction of the first two six-storey blocks which when completed in 1956 will add 408 beds to the present strength of 550.

13. At the **Trafalgar Home** for leprosy patients, new accommodation for 380 patients was completed in February 1955. This new accommodation has relieved all overcrowding for the time being; unsatisfactory temporary accommodation was demolished.

14. Two new **Maternal and Child Health Centres** were completed in 1955. The first at Yio Chu Kang village cost \$59,278; the second, at Ama Keng, built to exactly the same plan, cost just under \$50,000. This economy was achieved without sacrificing efficiency and chiefly by reducing the standards of finish to walls and floors.

15. So far the following projects under the Medical Plan have been completed or are in process of construction or planning:—

A.—WORK COMPLETED UP TO AND INCLUDING 1955

(a) *General*

(i) The Base Medical Store and Manufactory.

(ii) Medical Officer's Quarter, Bukit Panjang.

(b) *General Hospital*

(i) Nurses hostel for 250 nurses.

(ii) Out-patient Division with Casualty Division, Blood Transfusion Service Wing and Pharmacy Block.

- (iii) Remodelling of ward to form Eye Diseases Operating and Out-patient Division.
- (iv) Flats for six Medical Officers.
- (v) New double carriage way entrance roads.
- (vi) Remodelling of Wards 1, 2, 3, 4 and 5.
- (vii) Operating Theatre Block comprising two complete operating wings each with four theatres, built in equipment and thirty-four beds.
- (viii) New Children's Ward (Mistri Wing) 300 beds.
- (ix) Remodelling of Brebner Sisters' Home to convert to a staff nurses hostel.
- (x) Extension to Dental Clinic—(half University, half Government).

(c) *Kandang Kerbau (Maternity and Women)*

- (i) Four blocks of 4-storey flats for ninety-six servants.
- (ii) New Hospital Wing for 116 beds together with theatre, labour rooms, dispensary, etc.
- (iii) Out-patients' Division (Gynæcological, Ante and Post-natal Clinics), and Laboratory Block.
- (iv) Hostel for seventy-four nurses.
- (v) Students Hostel for eight housemen.

(d) *Woodbridge (Mental)*

- (i) Medical Store.
- (ii) X-ray Division.

(e) *Trafalgar Home (Leprosy)*

- (i) Sixty-nine Chalets for 276 patients.
- (ii) Two Dormitories for 104 patients.

(f) *Orthopædic Hospital*

New 40-bedded ward.

(g) *Tan Tock Seng Hospital*

- (i) Temporary pre-fab. buildings for Diversional Therapy Unit.
- (ii) Temporary pre-fab. buildings for nurses lounge and dining room.
- (iii) Temporary pre-fab. buildings for Nurses Training School.
- (iv) Temporary Hostel accommodation for 100 nurses.

(h) *Rural Maternal and Child Welfare Centres*

- (i) Six large rural health centres at Nee Soon, Holland Road, Thomson Road, Serangoon, Yio Chu Kang and Ama Keng.
- (ii) One centre with six beds at Pulau Tekong.
- (iii) One Midwife Centre at Chua Chu Kang, Bulim Road 13½ m.s.

B.—BUILDINGS UNDER CONSTRUCTION AT END OF 1955

(a) *General*

Medical Stores Extension.

(b) *General Hospital*

- (i) Remodelling of existing wards to form E.N.T. Unit.
- (ii) Hostel for 200 student nurses.
- (iii) Nurses Training School.
- (iv) Quarters for 140 Hospital Servants.

(c) *Tan Tock Seng Hospital*

Ward Blocks for 416 beds.

(d) *Trafalgar Home*

Staff Quarters.

(e) *Woodbridge Hospital*

Ward Blocks, four.

(f) *Maternal and Child Health Centre, Buona Vista.*C.—DRAWINGS IN PREPARATION AT END OF 1955 FOR CONSTRUCTION
TO BEGIN IN 1956(a) *General*

- (i) Urban Health Centre.
- (ii) Alterations to Middle Road Hospital.
- (iii) New Pathology Institute.

(b) *General Hospital*

- (i) Housemen's Quarters.
- (ii) Alterations to Wards to enlarge Orthopædic Unit.
- (iii) Quarters for seventy-eight Sisters.

(c) *Kandang Kerbau Hospital*

- (i) Quarters for Matrons and Sisters.
- (ii) Flats for medical officers.
- (iii) Alterations and additions to existing hospital buildings.

(d) *Tan Tock Seng Hospital*

- (i) Conversion of Students Hostel for 150 Nurses.
- (ii) Kitchen, Laundry and Central Sterile Supply.
- (iii) Two more Ward Blocks.

(e) *Woodbridge Hospital*

- (i) Staff Quarters.
- (ii) Mental Deficiency Institution.

(f) *Rural Maternal and Child Health Centres*

Four centres at Ulu Bedok and Sembawang (Nurse/Midwife Centres) and Kampong Sungei Tengah and Kuala Loyang (Midwife Centres).

16. During 1955 all **general out-patient dispensary services** throughout the Colony have been put under the supervision of a superscale officer—the Medical Officer in charge Out-patient Services. This officer also supervises the work of the Prisons' Medical Officers. In addition to the general out-patient clinics at three of our hospitals there are three outdoor dispensaries open daily to patients and six clinics held on one or more days a week at different centres in the island.

17. **New legislation** at the end of 1954 provided for the establishment of special Treatment Centres for opium addicts. In February 1955, an Opium Treatment Centre was opened on St. John's Island. The object of the institution is to provide a place to which selected persons who have been convicted in the courts for opium offences may be sent, where they can receive medical treatment, be built up physically and mentally, and where, under ideal conditions, they are encouraged to learn a trade which may be of use to them on their discharge, stress being laid on the rehabilitation aspect of treatment. A Committee was constituted consisting of the Superintendent of St. John's Island (O.T.C.), the Medical Officer, Outram Prison and the Rehabilitation Officer (O.T.C.). The Committee examined each case convicted under this Ordinance and made recommendations to the Courts. On these recommendations, offenders were committed to the Rehabilitation Centre, St. John's Island for periods up to one year. Up to the end of December 1955, 1,034 offenders, under this Ordinance, were detained, of which 279 were found suitable for rehabilitation at St. John's Island, the rest were detained at the Outram Prison. During the year 159 of the inmates were discharged from St. John's Island Opium Treatment Centre. There were no cases of relapse during the period. During the year five volunteers were admitted to the Centre at St. John's Island, and at the end of the year all were discharged after a period of three months' rehabilitation in the Centre. There were no cases of re-admission.

18. The importance of the **Medical Store and Manufactory** is seldom recognised, but its work is of course essential to every section of the Health Ministry. The turnover of drugs and chemicals in the Stores Section was well over \$1 million in 1955. The Pharmaceutical Laboratory completed a greatly increased manufacturing programme, the output of tablets and ampoules being more than double the figure for 1954. This manufacturing section provides a tremendous saving and a very conservative estimate of the cost of purchased pharmaceuticals shows an average of 50 per cent above the nett cost of our locally manufactured preparations.

19. The success of our **preventive health services** again is reflected in the figures given in the following table:—

—	1939	1944	1947	1950	1954	1955
Infant Mortality Rate ..	130.43	285	87.3	82.2	56.10	49.67
Death Rate	21	51	13.3	12.1	9.26	8.73
Estimated Population (mid-year)	727,564	860,000 (approx.)	938,144 (census)	1,015,453	1,165,129	1,210,534
Birth Rate	45	37 (approx.)	46	46	48.86	47.63
Maternal Mortality Rate..	4.0	4.1	2.9	1.9	1.5	0.9

20. Once again Singapore was free from all of the major **quarantinable diseases**—small-pox, cholera and plague. Constant vigilance also has kept the island free of malaria. Typhoid fever, anterior poliomyelitis and diphtheria still must be regarded as endemic. It is however regrettable that we have to report that, in spite of sustained propaganda carried out by the Health Departments of the Ministry and of the City Council, the 460 cases of diphtheria admitted to hospital in 1955 represent the highest number in any year since the war. We have always hoped to eliminate diphtheria by trying to persuade parents voluntarily to bring their children for inoculation; it appears that very much more in the way of health education will have to be undertaken before we can achieve our object.

21. Considerable progress has been made in the Department's programme for improvement of **village sanitation**. Eight more villages were added to the eight selected last year. Drainage, water supplies, collection and disposal of household refuse and night-soil have all had adequate attention. Playgrounds have been provided by reclamation of swampy areas by filling up with refuse. Standpipes have been supplied or covered wells with hand pumps constructed. Bore-hole, bucket or aquaprivy type of latrines have been built and people encouraged to take an interest in the hygiene of their own homes and surroundings.

22. A completely new project in **environmental hygiene** was necessitated by the opening in August 1955 of the new Singapore Airport in Paya Lebar. As the name Paya Lebar (Broad Swamp) indicates the environs of the new airport were mostly badly drained grassland and palm groves. In the area are numerous small farmers and squatter colonies. The problem which faced the Health Department was how to achieve adequate mosquito control around the airport without interfering with the livelihood of the people. The primary object was control of *Aedes* mosquitos, the potential carriers of Yellow Fever, but to achieve this object it was necessary vastly to improve the general environmental sanitation of the area. A survey before work began revealed an *Aedes* Index of 33 per cent in the control area of 880 yards round the airport perimeter. Every effort was made to eliminate all breeding places including tree holes and bamboo stumps; shallow wells were closed, drainage (still in progress) and standpipes were provided and observance of a 'dry day' during the week instituted. All 1,121 houses had bi-annual residual treatment with D.D.T., Gammoxane or Dioldrex. The whole area was cleared of brush and secondary vegetation and regular scavenging services introduced. This resulted in lowering the *Aedes* Index from 33 per cent to 4 per cent. Swing-fogging with Dioldrex-15 of the whole area was carried out from 10th to 19th August, 1955, each morning from 4.30 a.m. to 7.15 a.m. *Aedes* index dropped to 2 per cent. The most remarkable observation has been the total elimination of *Aedes ægypti* both in adult and larval form thus proving that such anti-mosquito measures as have been taken in a limited area were effective against this species even though the area so controlled was surrounded by *stegomyia* infested localities.

23. Although there is no legislation to provide adequate powers an effort was made in 1955 to improve industrial hygiene. Most of the 700 industrial premises in the rural area have been visited by officers of the Inspectorate of Dangerous and Hazardous Materials and of the Health Branch.

24. Expansion of the **Maternal and Child Health Service** has continued. The number of medical officers in this service was increased from three to

eight during the year and two new main centres were constructed. The service is conducting forty-eight centres distributed all over the rural area including the smaller islands.

25. A new specially constructed launch the 'Seraya' was put into commission for service as a second floating dispensary and is providing a mobile maternal and child health clinic for the smaller islands.

26. In the **School Health Service** there was an addition of four medical officers during the year and at the end of 1955 there were twelve officers looking after about 200,000 school children. They examine all new entrants, school leavers, children previously found defective and special cases referred by the school staff. Up to the end of 1955 63,424 school children had been examined. The Schools Tuberculosis Officer is in charge of a B.C.G. vaccination campaign and is responsible for the examination of teachers and school ancillary personnel for infective tuberculosis. There is a school travelling dispensary in charge of a nursing sister that administers minor treatments to children in rural schools and carries on all the vaccinations required for new entrants. The sanitary inspections are the responsibility of an experienced sanitary inspector attached to the Section.

27. The **Health Education Section** of the Department has been most active in initiating new methods of propaganda and teaching; an Assistant Health Education Officer was appointed. The event of the year was the organisation of an island-wide health exhibition from 21st to the 27th November, 1955. A central exhibition was held in the 'Happy World Stadium' and there were seven others, one in each of the rural districts.

28. The **Dental Service** of the Health Ministry has continued the policy of concentrating on preventive dentistry and directing most of its effort to the work of the Schools Dental Service and to the work in Maternal and Child Health Clinics for expectant mothers and pre-school children. The Mobile Dental Clinic having proved most successful, construction of a second vehicle was begun during the year. An important new appointment was made to provide dental attention for the chronic sick in Government hospitals. There is now a dental officer who divides his time between the Trafalgar Leprosy Home, the Woodbridge Mental Hospital and the Tan Tock Seng Tuberculosis Hospital. A Headquarters for the Dental Service was provided in the Health Ministry's premises in Maxwell Road, and here is established a laboratory for dental technicians. The laboratory was completed in July 1955 and five new probationary dental technicians were engaged and commenced a three-year course of training. Subsequently this number was increased to six. It is expected that these technicians will soon be able to undertake the provision of dentures for various sections of the public who are receiving treatment in dental clinics. Fluoridation of Singapore's water supply being planned for 1956, it was decided that a dental survey should be undertaken. This survey was carried out in the early part of 1955 and dental examinations of school children were conducted in 35 schools in Singapore and also, as a control, in nine schools in Malacca. The results will be of great value in future years after fluoridation has been introduced.

29. **Tuberculosis** continues to be the most serious public health problem in Singapore. At the invitation of the Singapore Government, Sir Harry Wunderly, K.T.B., M.D., F.R.C.P., F.R.A.C.P., Director of the Division of Tuberculosis in the Australian Commonwealth Department of Health, visited Singapore in May 1955. Sir Harry submitted a most helpful report with definite recommendations and it is hoped to implement those recommendations not

later than 1957. In the meantime the anti-tuberculosis work of the Government Medical Department and of the Singapore Anti-Tuberculosis Association has continued to expand.

30. **Leprosy** control has proceeded satisfactorily. The progress in the out-patients division has continued and the total number of non-infectious cases now under surveillance and treatment has now reached 1,289 and the contact clinic has been developed which has nearly 3,000 contacts under observation. During the year, 160 newly discovered positive cases were admitted to the Home for treatment. This is a slight increase on 1954, but below the 1953 figure. The distribution of cases, however, shows a satisfactory shift towards early diagnosis and nearly 68 per cent of these new cases gave a history of less than one year and nearly two-thirds of these less than six months. Long standing cases show a proportionate decrease. The number of discharges of formerly positive cases was seventy-two as against eighty-four in 1954. To this figure must be added a further eight who have been detained in the Home pending settlement on farm land or for orthopædic operations which should improve their chances of employment after their discharge.

31. The **Social Hygiene Unit** of the Ministry has continued its most valuable but necessarily unpublicised work in control of venereal diseases. The epidemiological control section keeps trace of all known cases of disease and of the contacts of those cases. By home visits and by postal enquiries, patients are kept under surveillance and are encouraged to report for examination or treatment; especial effort is made to persuade known prostitutes to attend regularly, and this is proving highly successful.

32. In 1955 the **cost** to public funds of the Ministry's medical and health services is estimated to have been \$28,869,814 of which total \$22,896,463 represents recurrent expenditure, about 11 per cent of Singapore's total revenue in 1955. Our medical and health services are of a high standard but there still remains much to be done. I estimate that for our present population we require 4,000 more hospital beds than those available at the end of 1955. The problem of tuberculosis still has to be overcome and there are large areas of the island where environmental health services are inadequate. The School Health and Dental Services are covering only a part of the school population and out-patient facilities are lacking for many communities. The problem of providing funds for the badly needed development of medical and health services deserves the most careful consideration and study.

33. Singapore is fortunate in the contribution made by many public spirited citizens and the work of the following societies and groups is gratefully acknowledged:—

- (a) The Hospitals Diversional Therapy Unit.
- (b) The Singapore Leprosy Relief Association.
- (c) The Rotary Club of Singapore.
- (d) The Singapore Anti-Tuberculosis Association.
- (e) The Singapore St. John Ambulance Association and Brigade.
- (f) The Singapore Branch of the British Red Cross Society.
- (g) The St. Andrew's Mission Hospital for Children.
- (h) The Singapore Association for the Blind.
- (i) The Singapore Association for the Deaf and Dumb.

34. During 1955 a **Medical Advisory Council** was established as a technical and professional body from which advice on medical and health problems and projects can be sought by the Minister for Health. The functions of the Council are purely advisory and its membership is confined to qualified professional personnel. The membership is representative of all professional associations, bodies and services in Singapore and thus the Minister is assured of obtaining a fully representative opinion. Our thanks are due and gladly given to those who have given so much time and trouble to the work of this Council.

35. The Ministry of Health is represented on the following Councils, Committees and Statutory Boards, and we wish to pay tribute to the many private citizens who also give their support and time to the work of these various bodies:—

- (a) Medical Councils of the Colony of Singapore and of the Federation of Malaya.
- (b) Dental Boards of Singapore and of the Federation.
- (c) Hospitals Board.
- (d) Pharmacy Board, Singapore and the Federation.
- (e) Nursing Board, Singapore.
- (f) Midwives Board, Singapore
- (g) Ambulance Committee.
- (h) Tan Tock Seng Hospital Management Committee.
- (i) Social Welfare Council.
- (j) Blood Transfusion Committee.
- (k) Visitors, Woodbridge Hospital.
- (l) The Treatment Allowances Advisory Committee.

36. I append for information a table showing the number of professional officers available for the work of the Ministry on 1st January, 1956.

I have the honour to be,

Sir,

Your obedient servant,

R. H. BLAND, O.B.E., B.A., M.B., B.CH.,
B.A.O., M.D. (Dublin), M.R.C.P. (Ireland),
*Director of Medical Services,
Singapore.*

TOTAL NUMBER OF OFFICERS AUTHORIZED AND AVAILABLE
1ST JANUARY, 1956

	Estimates 1956	Permanent	Short Contract and Temporary	Gone or going on long leave (including study)	Total to be available
<i>A.—Administration</i>					
Director	1	1	..	Short Leave	1
Deputy Director	1	1	..	..	1
Chief Health Officer	1	1	..	..	1
Chief Medical Officer	1	1	..	1	..
Chief Dental Officer	1	1	..	Short Leave	1
Medical Superintendent, Woodbridge Hospital	1	1	..	1	..
Medical Superintendent, Kandang Kerbau Maternity Hospital	1	1	..	..	1
Medical Superintendent, Tan Tock Seng Hospital	1	..	..	..	..
Senior Port Health Officer	1	..	..	..	..
Deputy Medical Superinten- dent, Woodbridge Hospital	1	1	..	..	1
Health Officer i/c Schools ..	1	1	..	..	1
Medical Officer i/c Out- patients Department	1	1	..	..	1
Principal Matron	1	1	..	..	1
Medical Superintendent, Trafalgar Home	1	..	..	..	..
<i>B.—Hospital Division</i>					
Specialist Officers, Grade 'E'	6	4 (1 acting)	..	1	3
Specialist Officers, Grade 'G'	26	10 (6 acting)	4	1	13
Medical Officers including Senior Registrars (excluding Housemen)	128	84	38	8	114
Housemen	50	..	49	..	49
Matrons	13	11	1	..	11
Specialist Sisters	93	28	34	3	59
Sisters Expatriate	} 167	66	57	8	114
Sisters, Locally Appointed ..		..	..	..	..
*Nurses	825	606	88	6	688
Hospital Assistants	} 220	172	31	8	195
Dispensing Assistants .. ..		..	..	..	..
†Qualified Midwives	74	27	25	..	52
Dental Staff (including House- men)	42	25	7	1	31
Pharmaceutical Chemists	2	..	2	1	1
Pharmacists	13	13	2	1	14
Laboratory Assistants	63	43	..	..	43
Male Nurses	11	8	..	..	8
<i>C.—Health Division</i>					
Health Officers	30	14	16	..	30
Health Education Officer	1	..	1	..	1
Supervisor of Public Health Works	1	..	1	..	1
Chief Sanitary Inspector	1	..	1	..	1
Sanitary Inspectors	21	18	..	..	18
Matrons	2	1	..	..	1
Health Sisters	17	5	12	2	15
Health Nurses	93	13	46	2	57
Hospital Assistants	22	12	5	..	17
Qualified Midwives	60	27	30	..	57

*Excludes 150 Assistant Nurses.

†Excludes 106 Pupil Midwives.

PART I

GENERAL

CHAPTER ONE

LEGISLATION

PROGRESS WAS again made in the initiation of new Ordinances and amendments to existing legislation, and the following were the principal enactments made during the year.

The Medicines (Advertisement and Sales) Ordinance, 1955

2. The principal objects of this Ordinance are to enforce disclosure of the formula on the label of packed medicines and to prevent advertisements to the public of remedies or treatments for Diabetes, Tuberculosis, Leprosy, Cancer and a number of other diseases and conditions. The Ordinance cannot come into force until at least 6 months from the date of passing, and these changes are therefore likely to become effective early in 1956.

The Dangerous Drugs (Temporary Provisions) (Amendment) Ordinance, 1955

3. This Ordinance brings about a minor change in the law by allowing certain cases in connection with opium offences to be heard in a Magistrate's Court instead of a District Court.

Poisons Rules

4. Further amendments to the Poisons List and the Schedule to the Poisons Rules were published in October. These amendments were principally to include new toxic drugs in the Poisons Schedules and likewise to control certain antibiotics which had previously not been restricted.

CHAPTER TWO

STAFF WELFARE

5. The work of the Personnel and Welfare Section in the Government Health Branch continued to increase during the year. In previous years this Section of the Medical Department Annual Report has gladly commended on the provident habits of the labourers. Unfortunately there are signs of a withdrawal from this almost unique state of affairs as no less than 150 members have resigned from the Co-operative Society during the year. This is mainly due to their stepping up expenditure by acquiring more extravagant habits which have persisted since the introduction of the Ritson Scheme which brought them a few hundred dollars as arrears.

6. The Society's position is as follows:—

	<i>Year ended 31st December, 1955</i>		<i>Year ended 31st December, 1954</i>	
	\$	c.	\$	c.
Post Office Savings Bank Account	18,130	33	8,130	33
Chartered Bank	4,085	84	24,026	23
Cash in transit	1,964	85	2,927	96
Investments	50,256	25	40,506	25
Loans outstanding	15,172	00	15,382	00
Total Credit Balance ...	89,609	27	90,972	77
Membership	301		452	
Total staff eligible ...	1,065		795	

7. In the midst of labour unrest and strikes in the Colony during the year, the Health Branch labourers have displayed contentment and have remained calm inspite of threatened instigations from quarters which indulged in strikes. This state of tranquility of the labour force has been possible mainly due to the able and wise guidance of the Secretaries of the two Unions of which the employees of this Branch are members.

8. During the year the labour force has been increased by more than 300 men most of whom were engaged through the assistance of the Labour Exchange, Labour Department.

9. During the period of bus workers strike transport facilities were made available for those labourers who had to cover long distances to reach their work spots.

10. Family quarrels and disputes amongst fellow workers have, as in the past, continued to receive much attention. However, cordial relationship and co-operation between the staff and the labourers have continued to increase.

11. The Welfare Section staff made regular visits to labour lines, muster points, works sites and have assisted labourers in settling debts, getting medical treatment and in securing passage for those who go on leave to India. Satisfactory relations have been maintained by personal contact with the Trade Unions concerned.

12. The Welfare Section enjoys a high measure of co-operation from the officials of the Health Department.

CHAPTER THREE

VITAL STATISTICS

POPULATION (EXCLUDING CHRISTMAS ISLAND)

13. The present population figure for mid-year 1955 is based on the actual 1947 census figure plus migrational surplus plus excess births over deaths since then. On this calculation the estimate is 1,210,534.

14. It must, however, be noted that indications have appeared during the work of the Diagnostic Survey Team and from other sources that the present figure of a little over 1,210,000 is almost certainly substantially lower than the actual population. No doubt more accurate figures will be available as a result of the Census which is to be taken in 1957.

15. Details of population by race since 1911 are as follows:—

Year	Chinese	Malay-sians	Indians and Pakis-tanis	Euro-peans	Eura-sians	Others	Total
1911 (Census) ..	219,577	41,806	27,755	5,711	4,671	3,801	303,321
1921 (Census) ..	315,151	53,595	32,314	6,145	5,346	5,717	418,358
1931 (Census) ..	418,640	65,014	50,811	8,082	6,903	8,295	557,745
1947 (Census) ..	729,473	113,803	68,967	9,279	9,110	7,512	938,144
1948 (Mid-year) ..	749,591	116,364	69,474	9,660	9,354	7,599	962,042
1949 (Mid-year) ..	761,962	119,623	70,749	10,923	9,716	7,845	980,818
1950 (Mid-year) ..	789,160	123,624	72,467	11,504	10,093	8,605	1,015,453
1951 (Mid-year) ..	806,690	127,063	75,601	12,785	10,451	9,343	1,041,933
1952 (Mid-year) ..	830,079	131,664	80,096	14,565	10,820	9,931	1,077,155
1953 (Mid-year) ..	859,201	136,887	87,213	15,811	11,130	10,535	1,120,777
1954 (Mid-year) ..	891,550	142,843	91,012	17,122	11,402	11,200	1,165,129
1955 (Mid-year) ..	926,453	148,102	94,290	18,202	11,684	11,803	1,210,534

16. Attention is again drawn to the increase in Singapore's population. In the 21-year period from 1911 to 1931 the increase was some 83 per cent when the cause was due to large-scale immigration from India and China. Since 1931 the overall increase is about 118 per cent due in the main to an increasing natural (births over deaths) cause. This natural increase has become phenomenal over the post-war period and has in fact been masked over recent years by a balance of emigration over immigration. In 1931 the ratio of females to males was 584 to 1,000. It is now 895 to 1,000. This approaching parity of sexes, the intense overcrowding, the very young ages at which women marry and the increase in the young state of the population are the factors of real significance in present and future local population trends.

17. It will be observed from the Table on page 19 that while the ages of mothers range from twelve years to more than forty-five years, no less than 11,664 babies out of a total of 57,812, i.e. more than 20 per cent, were born to women under twenty-one years. What effect this must have in contributing to our comparatively high infant mortality rate as judged by Western standards it is difficult to assess. Indeed the fact that the Malays who have the highest infant mortality rate (104.61 against the 49.67 for all races) gave birth to 3,192 out of a total of 8,793 deliveries, i.e. more than 36 per cent, in this age-group (12-21) of adolescence and near childhood, would suggest that pregnancy in these years carries an added risk of death to the

infant. In fact motherhood in this age group has increased among Malays from 32 per cent in 1952 and 35 per cent in 1953 to 36.3 per cent in the current year.

BIRTHS AND BIRTH RATES

	1931		1947		1952		1954		1955	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Chinese	15,993	37.85	33,629	46.20	39,088	47.09	42,780	47.98	43,069	46.30
Malaysians	2,862	43.69	5,473	47.73	6,858	52.09	8,143	57.10	8,336	56.35
Indians and Pakistanis	1,020	19.64	3,087	43.30	3,672	45.84	4,230	46.48	4,431	47.08
Europeans	169	20.55	312	35.79	757	51.97	889	51.92	1,033	56.75
Eurasians	199	28.53	359	39.84	359	33.18	334	29.29	358	30.90
Others	227	29.09	185	28.27	460	46.32	555	49.55	585	49.90
Unknown .. ..	..	..	..	..	2	..	..	..	..	..
Total ..	20,470	36.37	43,045	45.89	51,196	47.53	56,931	48.86	57,812	47.63
Males	10,753	..	22,152	..	26,342	..	29,514	..	29,648	..
Females	9,717	..	20,893	..	24,854	..	27,416	..	28,164	..
Unknown .. ..	..	..	..	..	..	..	1	..	..	..
Total ..	20,470	..	43,045	..	51,196	..	56,931	..	57,812	..
Male births per 100 births .. ..	..	52.04	..	51.23	..	51.45	..	51.84	..	51.28

18. The annual increase in the number of births over the post-war period is seen to be continuing at a phenomenal rate. The 1955 figure of 57,812 is an all-time record.

19. The crude birth rate is 47.63. The trend in the birth rate may appear a little perplexing when our improving standards of living, the promotion of adult education, and the fostering of a responsible attitude of parents to their children might be expected to promote family limitation. But almost certainly the intense overcrowding and the approaching parity between the sexes are the factors which will continue to more than counter-balance any such suggested influences for a long time to come.

BIRTHS BY SEX AND RACE, 1955

—			Urban Area	Rural Area	Singapore Total
<i>Males</i>					
Europeans	..	..	155	381	536
Eurasians	..	..	178	17	195
Chinese	..	..	16,900	5,182	22,082
Malaysians	..	..	2,334	1,926	4,260
Indians and Pakistanis	..	..	1,875	408	2,283
Others	..	..	202	90	292
Total			21,644	8,004	29,648
<i>Females</i>					
Europeans	..	..	173	324	497
Eurasians	..	..	148	15	163
Chinese	..	..	16,069	4,918	20,987
Malaysians	..	..	2,226	1,850	4,076
Indians and Pakistanis	..	..	1,774	374	2,148
Others	..	..	189	104	293
Total			20,579	7,585	28,164
Grand Total			42,223	15,589	57,812

BIRTHS BY SEX, RACE AND MOTHER'S AGES, 1955

Mother's Age in years	EUROPEANS		EURASIANS		CHINESE		MALAYSIANS		INDIANS AND PAKISTANIS		OTHERS		TOTAL	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
12 years	..	..	..	..	1	..	..	..	..	1	..	..	1	1
13 years	..	..	..	..	1	..	..	2	3	2	..	..	4	4
14 years	..	..	..	..	1	3	4	7	14	11	..	..	19	21
15 years	..	..	..	2	17	16	50	47	20	36	..	..	87	101
16 years	..	..	..	..	93	93	117	113	60	66	..	..	273	272
17 years	..	..	2	..	189	194	158	173	63	50	1	..	420	424
18 years	..	..	2	1	386	367	318	267	105	104	8	6	832	750
19 years	3	4	6	2	734	662	307	287	116	119	14	6	1,180	1,090
20 years	8	4	6	5	964	986	414	355	142	139	9	13	1,562	1,510
21 years	12	10	9	10	1,112	1,058	306	267	121	123	21	10	1,604	1,509
22 years	28	34	16	10	1,329	1,260	285	284	145	148	18	17	1,825	1,759
23 years	36	31	12	16	1,306	1,289	257	275	121	119	24	20	1,749	1,768
24 years	24	40	17	13	1,407	1,340	208	245	117	97	17	18	1,813	1,746
25 years	52	37	12	9	1,490	1,341	336	351	155	134	18	24	2,071	1,895
26 years	50	29	22	16	1,398	1,247	228	201	115	97	17	15	1,812	1,600
27 years	41	34	13	6	1,350	1,284	191	208	97	103	14	16	1,699	1,653
28 years	37	30	10	12	1,232	1,206	213	202	87	92	15	14	1,590	1,561
29 years	31	34	12	13	970	948	136	119	76	61	5	10	1,219	1,170
30 years	21	23	11	9	998	935	231	232	79	68	12	12	1,362	1,287
31	31	28	11	12										
Carried forward	374	338	161	136	14,978	14,229	3,759	3,635	1,636	1,570	214	213	21,122	20,121

BIRTHS BY SEX, RACE AND MOTHER'S AGES, 1955—contd.

Mother's Age in years	EUROPEANS		EURASIANS		CHINESE		MALAYSIANS		INDIANS AND PAKISTANIS		OTHERS		TOTAL	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
<i>Brought forward</i>	374	338	161	136	14,978	14,229	3,759	3,635	1,636	1,570	214	213	21,122	20,121
31 years	18	24	7	6	897	775	83	93	59	53	5	4	1,069	955
32 years	31	21	6	7	834	790	147	133	81	58	6	2	1,105	1,011
33 years	15	15	9	8	684	694	70	60	40	36	6	5	824	818
34 years	21	10	7	8	674	736	71	61	43	39	6	6	822	860
35 years	14	11	8	4	694	639	134	101	42	52	4	8	896	815
36 years	7	15	4	6	595	596	49	46	27	17	5	3	687	683
37 years	6	8	6	4	583	550	54	49	15	18	5	1	669	630
38 years	8	7	4	6	542	473	42	29	17	16	3	2	616	533
39 years	4	3	2	1	440	396	14	14	11	8	2	3	473	425
40 years	5	6	1	3	397	392	32	30	12	11	1	5	448	447
41 years	3	2	2	..	252	226	11	7	4	6	1	..	273	241
42 years	1	..	1	1	228	219	11	24	6	7	..	1	247	252
43 years	1	..	..	..	151	154	6	5	3	2	..	1	161	162
44 years	1	1	..	..	93	100	4	1	1	..	..	..	99	102
45 years	..	1	..	..	74	41	7	5	..	..	..	..	81	47
Over 45 years..	1	..	..	..	50	56	2	2	..	1	..	..	53	59
Unknown	..	..	..	..	1	..	..	2	..	..	2	1	3	3
Total ..	510	462	218	190	22,167	21,066	4,496	4,297	1,997	1,894	260	255	29,648	28,164

DEATHS AND DEATH RATES

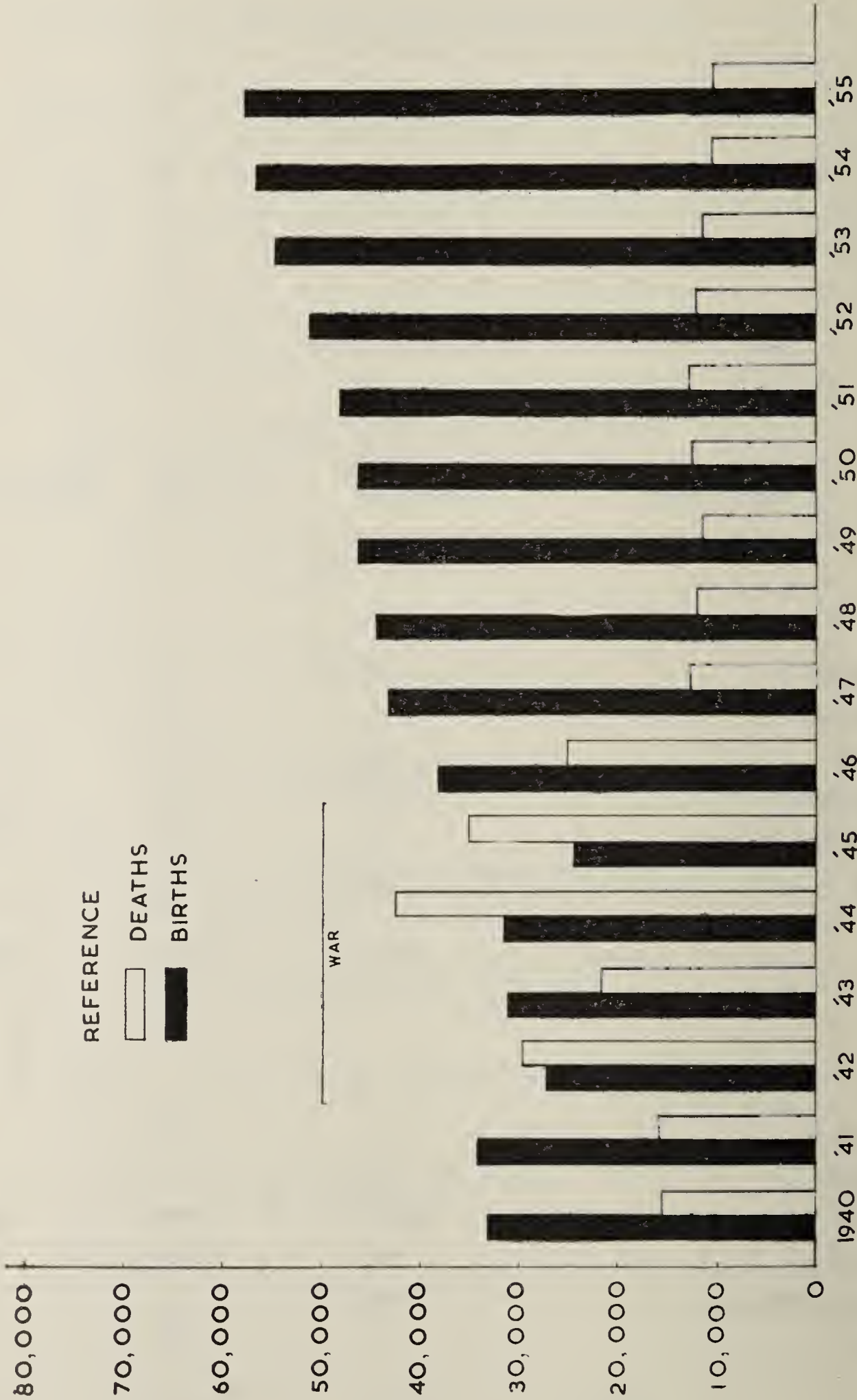
	1931		1947		1952		1954		1955	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Chinese	10,599	25.09	9,368	12.87	9,050	10.90	7,752	8.69	7,648	8.26
Malaysians ..	1,905	29.08	2,029	17.70	1,922	14.60	1,933	13.53	1,947	13.15
Indians and Pakistanis	820	15.81	878	12.32	798	9.96	805	8.84	712	7.55
Europeans	51	6.20	74	8.49	103	7.07	107	6.25	86	4.72
Eurasians	103	14.76	84	9.32	85	7.86	94	8.24	78	6.68
Others	145	18.58	78	11.92	102	9.36	99	8.84	102	8.64
Total ..	13,623	24.20	12,511	13.34	12,060	11.20	10,790	9.26	10,573	8.73

DEATHS BY SEX AND RACE, 1955

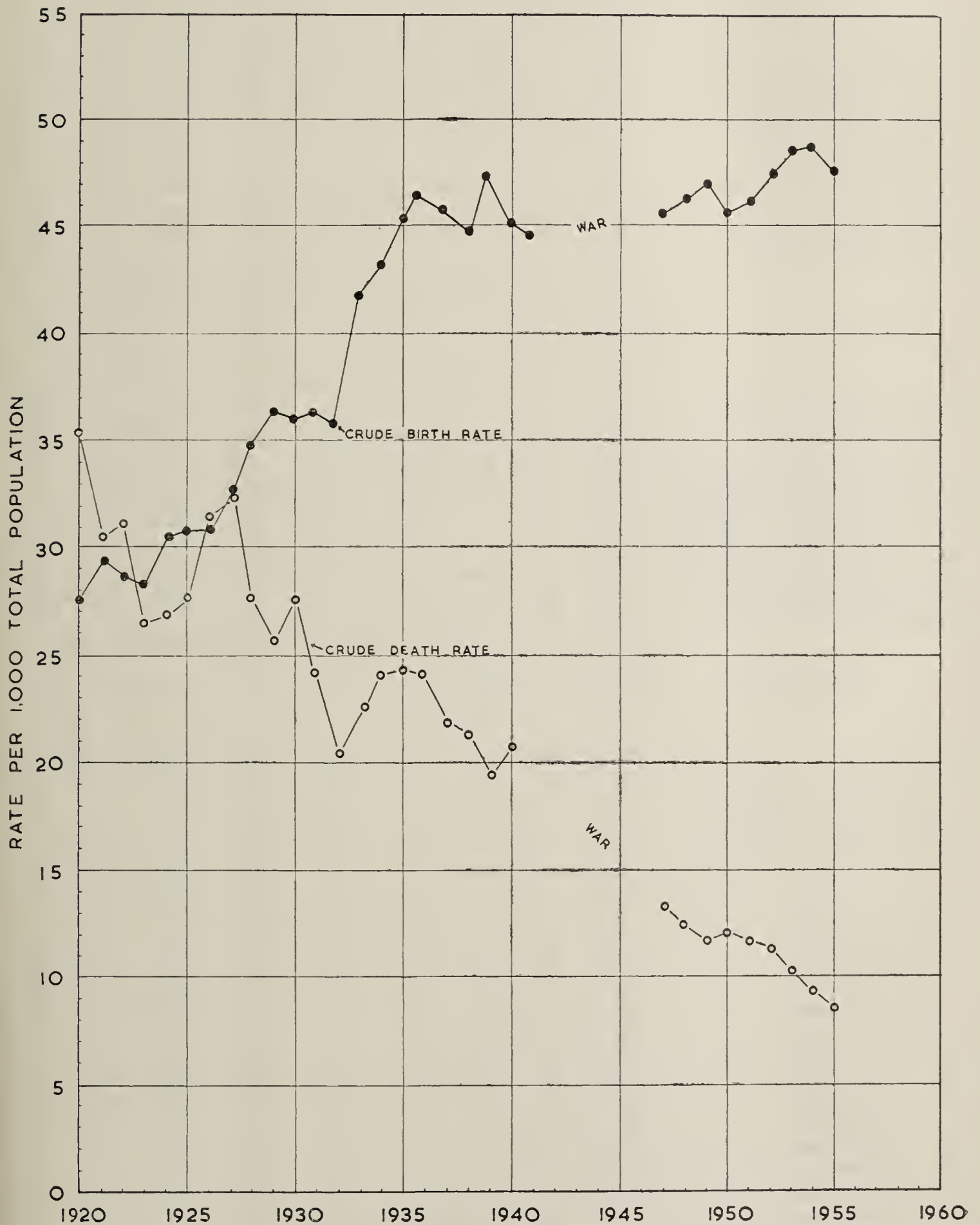
Racial Group			Urban Area	Rural Area	Singapore Total
<i>Males</i>					
Europeans .. ..	..	..	34	38	72
Eurasians .. ..	..	..	40	3	43
Chinese .. ..	..	..	3,599	757	4,356
Malaysians .. ..	..	..	618	421	1,039
Indians and Pakistanis	..	..	438	47	485
Others .. ..	..	..	39	22	61
Total ..			4,768	1,288	6,056
<i>Females</i>					
Europeans .. ..	..	..	8	6	14
Eurasians .. ..	..	..	28	7	35
Chinese .. ..	..	..	2,699	591	3,290
Malaysians .. ..	..	..	504	404	908
Indians and Pakistanis	..	..	196	31	227
Others .. ..	..	..	29	10	39
Total ..			3,463	1,049	4,513
Grand Total ..			8,232	2,337	10,573*

* Includes 4 of unknown sex.

SINGAPORE
DIAGRAM TO SHOW TOTAL BIRTHS & DEATHS FOR PERIOD 1940 - 1955



SINGAPORE
TREND OF CRUDE BIRTH AND DEATH RATES: 1920 ONWARDS.



DEATHS BY AGE-GROUP, REGISTRATION AREA AND SEX, 1955

Age Group	URBAN AREA			RURAL AREA			SINGAPORE TOTAL		
	Male	Female	Male and Female	Male	Female	Male and Female	Male	Female	Male and Female
Under 1 day	158	130	288	29	18	47	187	148	335
1 day and under 2 days ..	80	54	134	22	21	43	102	75	177
2 days and under 3 days ..	39	30	69	13	13	26	52	43	95
3 days and under 4 days ..	35	31	66	7	4	11	42	35	77
4 days and under 5 days ..	30	23	53	3	9	12	33	32	65
5 days and under 6 days ..	24	15	39	5	5	10	29	20	49
6 days and under 7 days ..	19	18	37	3	5	8	22	23	45
7 days and under 14 days ..	109	82	191	19	23	42	128	105	233
14 days and under 21 days ..	81	65	146	12	10	22	93	75	168
21 days and under 28 days ..	30	34	64	9	10	19	39	44	83
NEO-NATAL DEATHS ..	605	482	1,087	122	118	240	727	600	1,327
28 days and under 2 months ..	117	89	206	61	42	103	178	131	309
2 months and under 3 months	91	58	149	42	19	61	133	77	210
3 months and under 4 months	79	45	124	24	29	53	103	74	177
4 months and under 5 months	60	50	110	24	19	43	84	69	153
5 months and under 6 months	50	39	89	16	17	33	66	56	122
6 months and under 7 months	36	36	72	22	16	38	58	52	110
7 months and under 8 months	40	37	77	12	13	25	52	50	102
8 months and under 9 months	44	49	93	15	14	29	59	63	122
9 months and under 10 months	25	43	68	15	12	27	40	55	95
10 months and under 11 months	23	26	49	10	12	22	33	38	71
11 months and under 1 year	22	26	48	11	12	23	33	38	71
Infant Mortality* ..	1,192	980	2,172	374	323	697	1,566	1,303	2,869
Under 1 year	1,192	980	2,172	374	323	697	1,566	1,303	2,869
1 year and under 2 years ..	171	156	327	67	83	150	238	239	477
2 years and under 3 years ..	103	100	203	37	39	76	140	139	279
3 years and under 4 years ..	64	50	114	24	20	44	88	70	158
4 years and under 5 years ..	42	41	83	15	17	32	57	58	115
5 — 9 years ..	102	80	182	32	14	46	134	94	228
10 — 14 years ..	47	24	71	14	11	25	61	35	96
15 — 19 years ..	78	60	138	22	15	37	100	75	175
20 — 24 years ..	83	65	148	18	16	34	101	81	182
25 — 29 years ..	113	68	181	27	21	48	140	89	229
30 — 34 years ..	124	82	206	24	23	47	148	105	253
35 — 39 years ..	170	123	293	44	17	61	214	140	354
40 — 44 years ..	260	135	395	27	32	59	287	167	454
45 — 49 years ..	323	152	475	54	34	78	377	186	553
50 — 54 years ..	420	180	600	60	41	101	480	221	701
55 — 59 years ..	420	209	629	96	55	151	516	264	780
60 — 64 years ..	392	214	606	98	40	138	490	254	744
65 — 69 years ..	290	213	503	102	67	169	392	280	672
70 — 74 years ..	194	196	390	71	61	132	265	257	522
75 — 79 years ..	105	144	249	48	48	96	153	192	345
80 — 84 years ..	44	107	151	25	41	66	69	148	217
85 years and over ..	26	80	106	9	31	40	35	111	146
Unknown	9	5	14	..	..	..	9	5	14
Total ..	4,772	3,464	8,236	1,288	1,049	2,337	6,060	4,513	10,573

*Includes neo-natal deaths.

Four deaths of unknown sex are included above under 'Male'.

DEATHS GROUPED ACCORDING TO AGE, SEX AND RACE, 1955

Age Group	Euro-peans		Eura-sians		Chinese		Malay-sians		Indians and Pakis-tanis		Others		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 day ..	3	..	..	1	126	91	44	45	11	8	3	3	187	148
1 day and under 2 days	3	..	..	..	79	50	17	14	1	7	2	4	102	75
2 days and under 3 days	2	..	1	1	36	31	10	8	3	3	..	..	52	43
3 days and under 4 days	..	..	1	..	27	24	9	6	4	5	1	..	42	35
4 days and under 5 days	..	..	1	..	16	15	9	14	7	3	..	..	33	32
5 days and under 6 days	..	..	1	..	20	13	6	7	2	..	..	..	29	20
6 days and under 7 days	..	..	..	..	16	17	3	5	..	1	3	..	22	23
7 days and under 14 days	1	..	..	1	94	77	22	20	11	3	..	4	128	105
14 days and under 21 days ..	1	..	..	..	65	54	23	12	3	8	1	1	93	75
21 days and under 28 days ..	..	..	1	..	19	27	15	16	4	1	..	..	39	44
Neo-Natal Deaths	10	..	5	3	498	399	158	147	46	39	10	12	727	600
28 days and under 2 months ..	3	1	..	..	82	69	79	49	14	12	..	..	178	131
2 months and under 3 months ..	1	..	1	..	65	36	57	32	8	9	1	..	133	77
3 months and under 4 months ..	1	..	..	..	54	37	41	31	7	6	..	..	103	74
4 months and under 5 months ..	..	..	..	..	44	45	38	20	1	3	1	1	84	69
5 months and under 6 months ..	..	..	..	..	42	36	21	15	3	4	..	1	66	56
6 months and under 7 months ..	..	1	1	..	25	29	24	21	5	1	3	..	58	52
7 months and under 8 months ..	1	..	..	1	27	31	16	14	6	4	2	..	52	50
8 months and under 9 months ..	..	..	..	..	31	40	23	16	5	6	..	1	59	63
9 months and under 10 months ..	..	..	..	..	23	36	13	16	4	3	..	..	40	55
10 months and under 11 months ..	..	..	..	..	23	20	9	13	1	3	..	2	33	38
11 months and under 1 year ..	..	..	1	..	15	26	12	11	5	1	..	..	33	38
Infant Mortality* ..	16	2	8	4	929	804	491	385	105	91	17	17	1,566	1,303

* Includes neo-natal deaths

Deaths of unknown sex are included above under "Male".

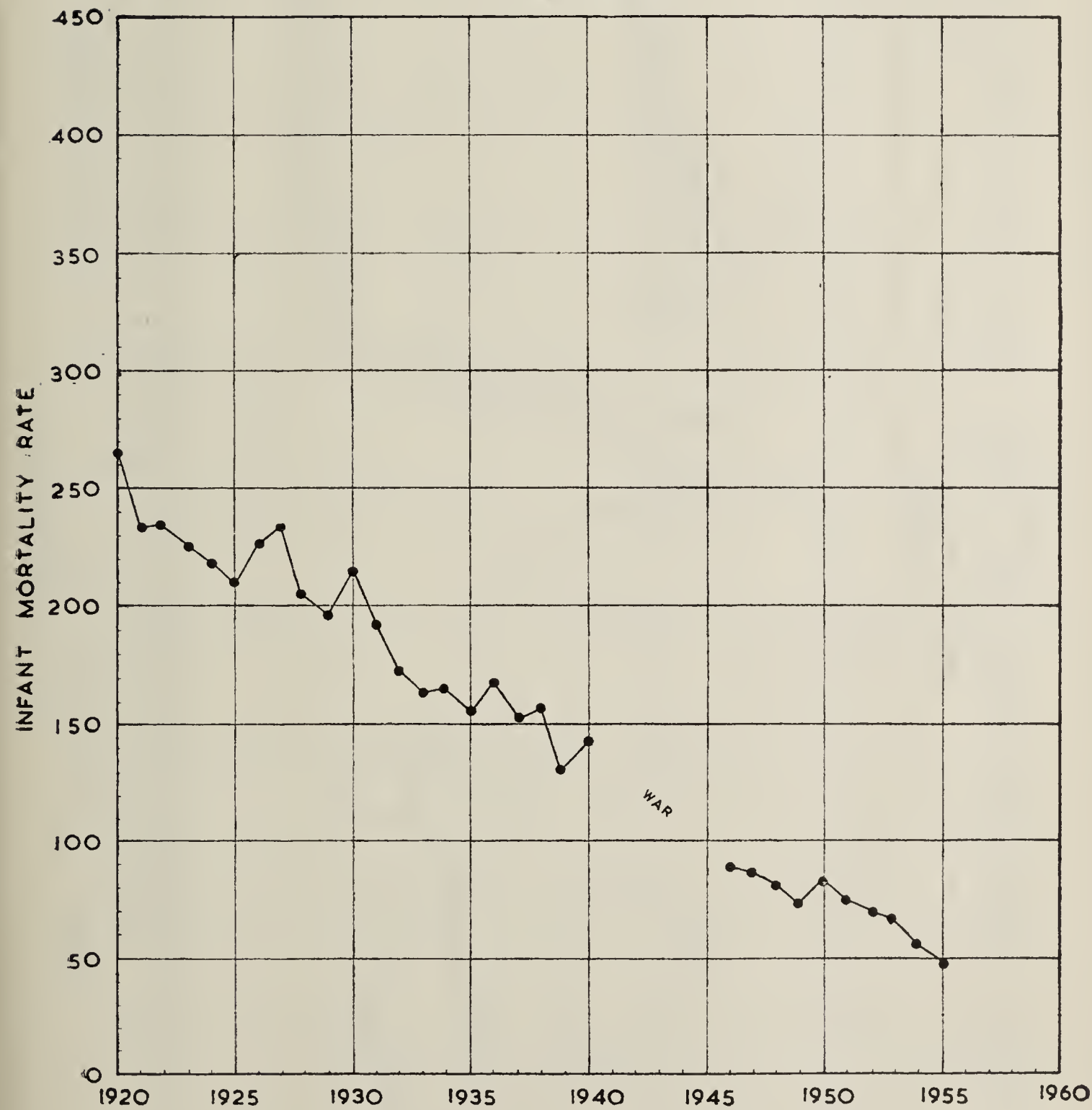
DEATHS GROUPED ACCORDING TO AGE, SEX AND RACE, 1955—*continued*

AGE GROUP	Euro- peans		Eura- sians		Chinese		Malay- sians		Indians and Pakis- tanis		Others		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 year ..	16	2	8	4	929	804	491	385	105	91	17	17	1,566	1,303
1 year and under 2 yrs. ..	..	1	..	1	159	157	64	67	14	13	1	..	238	239
2 years and under 3 yrs. ..	..	..	..	2	101	105	33	28	5	4	1	..	140	139
3 years and under 4 yrs. ..	1	1	1	..	65	54	17	10	2	5	2	..	88	70
4 years and under 5 yrs ..	..	..	1	..	45	44	9	11	1	3	1	..	57	58
5—9 years ..	2	..	..	..	91	70	32	14	9	9	..	1	134	94
10—14 years ..	1	..	..	..	42	25	13	10	4	..	1	..	61	35
15—19 years ..	3	..	2	..	69	54	20	16	4	5	2	..	100	75
20—24 years ..	6	..	1	1	72	51	8	19	10	7	4	3	101	81
25—29 years ..	9	5	2	1	83	48	22	23	21	1	3	1	140	89
30—34 years ..	2	..	..	..	90	72	30	23	24	8	2	2	148	105
35—39 years ..	4	..	4	..	157	107	22	26	26	7	1	..	214	140
40—44 years ..	4	..	1	..	220	134	21	26	40	7	1	..	287	167
45—49 years ..	4	..	3	1	284	142	33	30	49	12	4	1	377	186
50—54 years ..	5	1	1	..	383	166	30	41	57	11	4	2	480	221
55—59 years ..	2	1	6	7	418	205	49	41	36	8	5	2	516	264
60—64 years ..	6	2	3	4	387	214	56	23	35	10	3	1	490	254
65—69 years ..	5	1	6	1	330	224	24	42	26	9	1	3	392	280
70—74 years ..	2	..	2	4	224	233	25	14	10	6	2	..	265	257
75—79 years ..	..	..	1	3	127	163	19	17	4	8	2	1	153	192
80—84 years ..	..	..	1	4	59	128	7	13	2	2	..	1	69	148
85 years and over ..	..	..	..	2	19	88	14	19	1	1	1	1	35	111
Unknown ..	..	..	..	..	4	2	..	..	..	..	5	3	9	5
Total ..	72	14	43	35	4,358	3,290	1,039	908	485	227	63	39	6,060	4,513

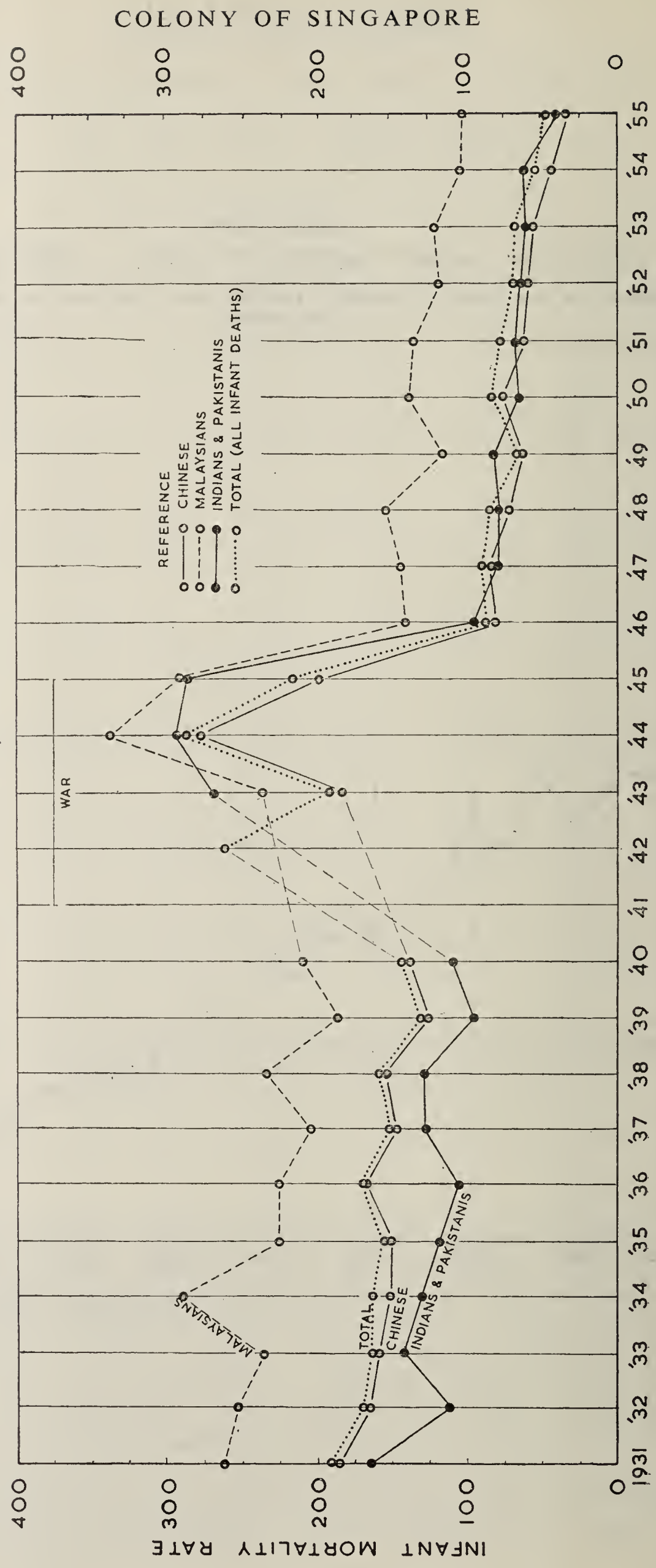
Four deaths of unknown sex are included above under "Male".

20. The death rate for 1955 is the lowest on record at 8.73 per 1,000 of the population, and compares more than favourably with any western country as a crude death rate. The Table showing the total number of deaths, rate per million of population, and comparison with average rate for 1939/1941 by principal causes of deaths, is discontinued since 1954. With the adoption of the new nomenclature, a different grouping system has been followed and in consequence certain disease trends have now become non-comparable. Furthermore, quite apart from improvement or deterioration in health conditions, the index numbers are influenced by changes in age, sex, and racial distribution of the population, and the accuracy of certification as to cause of death. These conditions now are believed to be quite different from what they were in 1939–1941.

SINGAPORE
TREND OF INFANT MORTALITY RATE: 1920 ONWARDS.
(Rates are the number of deaths reported under one year of age per 1,000 live births).



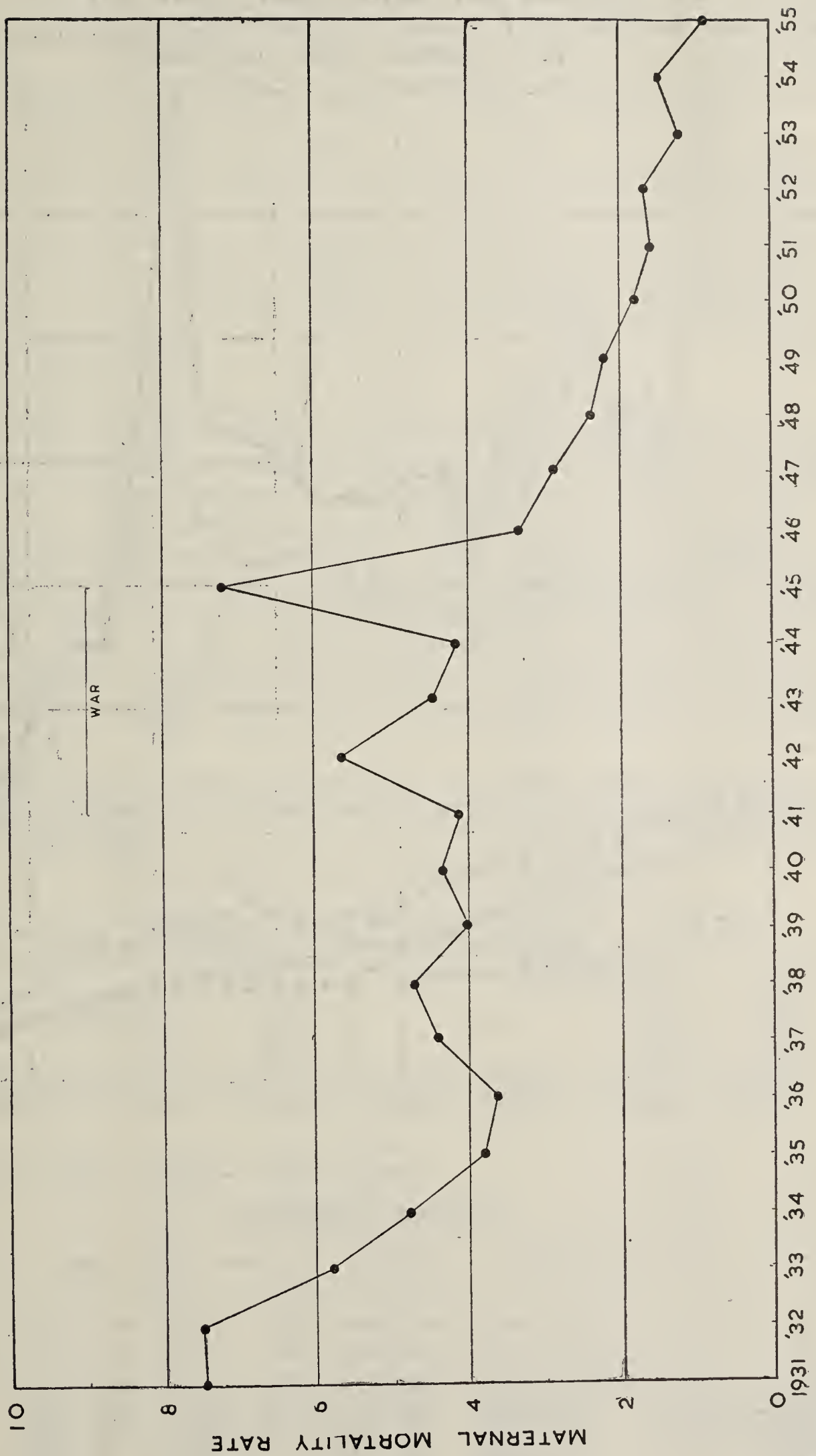
SINGAPORE
INFANT MORTALITY RATES BY ETHNIC GROUP (RACE): 1931 ONWARDS
(Rates are the number of deaths reported under one year of age per 1,000 live births).



SINGAPORE

TREND OF MATERNAL MORTALITY RATE: 1931 ONWARDS.

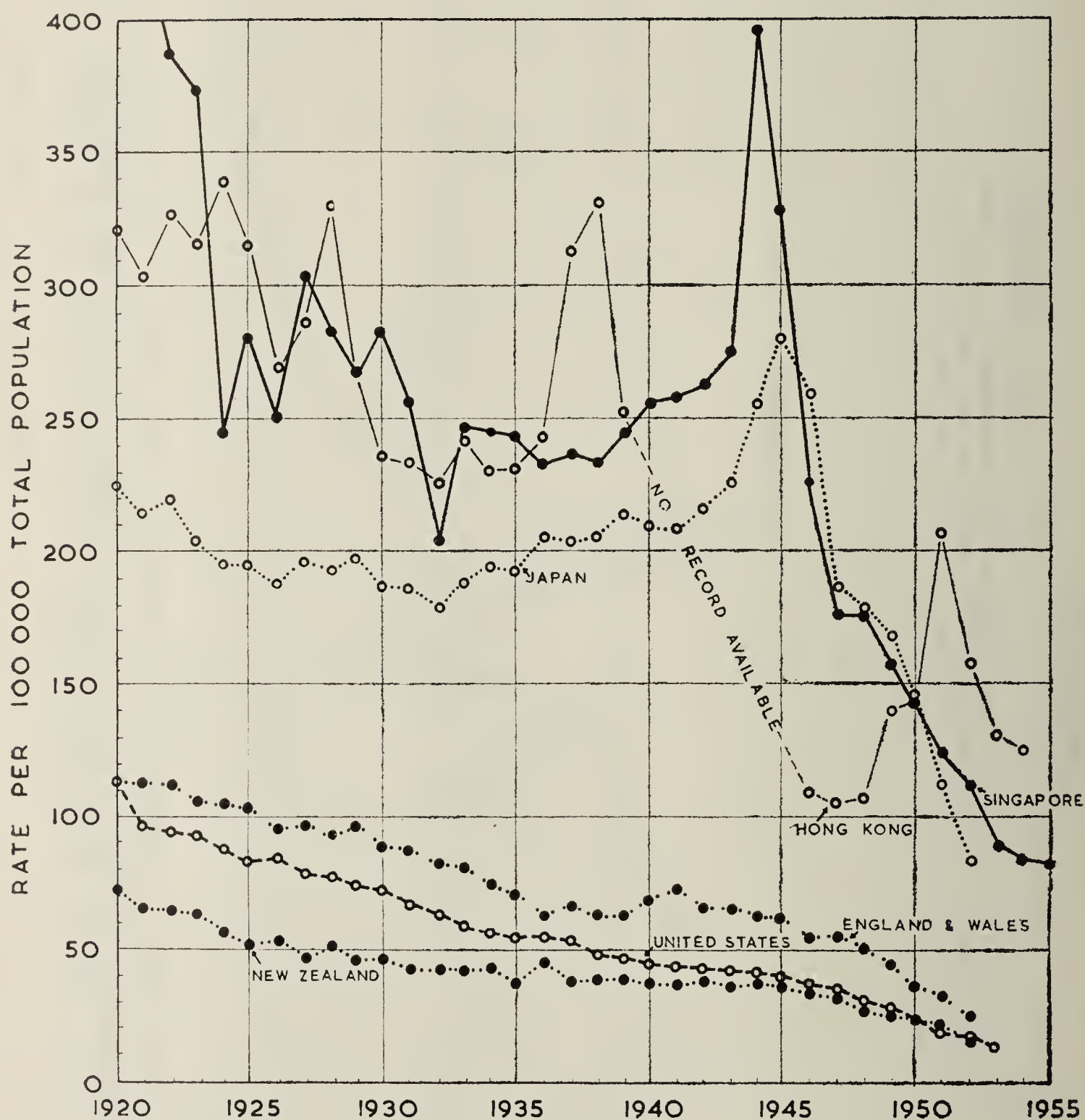
(Rates are the number of deaths due to deliveries and complications of pregnancy, child-birth and the puerperium per 1,000 total live and still births).



TREND OF TUBERCULOSIS DEATH RATES: 1920 ONWARDS.

(Singapore and certain other countries)

(Rates are the number of deaths reported from tuberculosis (all forms) per 100,000 total population).



DEPT. OF SOCIAL MEDICINE & PUBLIC HEALTH

INFANT MORTALITY

	1931		1947		1952		1954		1955	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Chinese ..	3,041	183.83	2,671	79.43	2,434	62.27	2,002	46.80	1,731	40.36
Malaysians ..	722	261.35	784	143.25	823	120.01	869	106.71	873	104.61
Indians and Pakistanis ..	171	163.73	236	76.45	243	66.19	257	60.76	196	44.15
Europeans ..	5	29.59	18	57.69	24	31.70	19	21.37	18	17.42
Eurasians ..	23	110.55	28	77.99	17	47.35	12	35.93	12	33.24
Others ..	34	149.78	21	113.51	36	78.28	35	63.06	34	57.72
Unknown ..	..	..	..	..	5	..	..	..	..	..
Total ..	3,996	191.30	3,758	87.33	3,582	69.97	3,194	56.10	2,864	49.67

21. The infant mortality rate now stands at 49.67 against the 56.10 of 1954. This compares very favourably indeed with the 1939 figure of 103.47 and 284.95 in 1944. For the three main races—Chinese, Malays and Indians—the Chinese rate is still the lowest at a record of 40.36 as compared with 46.80 in 1954, the Indian being 44.15 as compared with 60.76 in 1954. The Malay rate shows a decrease from 106.71 in 1954 to 104.61 in 1955.

22. A reason for the very high infant mortality rate amongst Malays has already been advanced above in the discussion on the ages of parturient mothers. Other causes are environmental, social and economic. Both in the City and in the Rural areas, the majority of Malays live in circumstances far less satisfactory in regard to modern standards of hygiene and sanitation. On the whole, it is not a wealthy section: the grandmother, the pawang and the *dukun* (local medicine men) still wield their traditionally powerful influence in these households.

23. Naturally the present rate has still a long way to go to reach the figure attainable in such countries as England and Wales which now well below thirty infant deaths under one year of age per 1,000 live births. Singapore, is, of course, subject to disease conditions which are unknown in England and its population is concentrated to a far greater extent in cubicle housing which creates the worst of slum conditions. In addition any territory which is subject to such a phenomenally high birth rate as that of Singapore will never be able to attain the low levels that are possible in countries with birth rates of under 20. Furthermore, areas with more than one race and with a percentage still adhering to Eastern forms of medicine have additional problems which have considerable effect on our infant mortality rate.

24. Singapore has always recorded a very much lower still birth rate than England and Wales. The maternal mortality rate was 0.9 per thousand births.

STILL-BIRTHS AND STILL-BIRTH RATE

(STILL-BIRTH RATE=NUMBER OF STILL-BIRTHS
PER 1,000 TOTAL LIVE AND STILL-BIRTHS)

Year	Still-Births	Still-Birth Rate	Year	Still-Births	Still-Birth Rate
1931	568	27.0	1943	599	18.8
1932	528	24.8	1944	610	18.9
1933	527	23.9	1945	459	18.4
1934	586	25.1	1946	645	16.4
1935	650	24.5	1947	671	15.3
1936	693	24.1	1948	753	16.7
1937	755	24.7	1949	803	17.1
1938	783	24.0	1950	807	17.1
1939	814	23.0	1951	802	16.4
1940	719	20.8	1952	901	17.3
1941	816	23.2	1953	925	16.9
1942	467	16.6	1954	932	16.1
			1955	904	15.4

MATERNAL DEATHS AND MATERNAL MORTALITY RATE

(MATERNAL MORTALITY RATE=NUMBER OF MATERNAL DEATHS
PER 1,000 TOTAL LIVE AND STILL-BIRTHS)

Year	Maternal Deaths	Maternal Mortality Rate	Year	Maternal Deaths	Maternal Mortality Rate
1931	158	7.5	1943	139	4.4
1932	160	7.5	1944	131	4.1
1933	128	5.8	1945	179	7.2
1934	111	4.8	1946	128	3.3
1935	100	3.8	1947	125	2.9
1936	103	3.6	1948	108	2.4
1937	134	4.4	1949	102	2.2
1938	154	4.7	1950	86	1.8
1939	140	4.0	1951	80	1.6
1940	148	4.3	1952	87	1.7
1941	146	4.1	1953	68	1.2
1942	160	5.7	1954	88	1.5
			1955	52	0.9

(Note: Maternal deaths are taken as deaths due to deliveries and complications of pregnancy, child-birth and the puerperium.)

MIGRATION STATISTICS BY SEA AND AIR DURING 1955

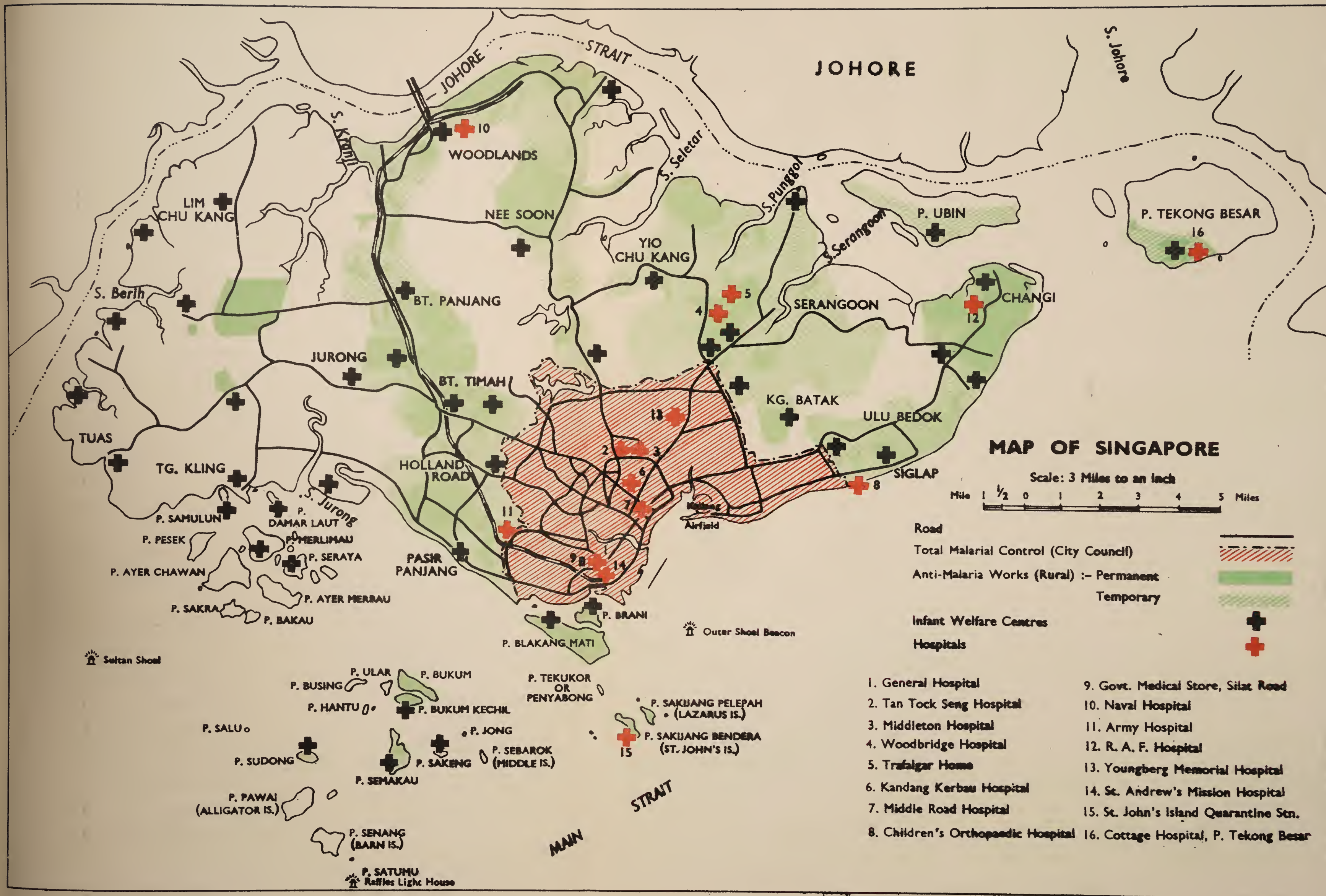
IMMIGRANTS

Race	ADULTS		CHILDREN*		Total
	Male	Female	Male	Female	
Europeans	25,564	11,566	3,179	1,524	41,833
Eurasians	167	127	57	47	398
Chinese	20,978	12,147	2,875	1,755	37,755
Malaysians	7,057	1,927	607	457	10,048
Indians and Pakistanis ..	17,282	2,832	1,379	876	22,369
Japanese	456	128	4	..	588
Other Races	1,774	324	105	60	2,263
Total, All Races ..	73,278	29,051	8,206	4,719	115,254

EMIGRANTS

Race	ADULTS		CHILDREN*		Total
	Male	Female	Male	Female	
Europeans	25,618	11,632	3,280	1,530	42,060
Eurasians	179	110	46	39	374
Chinese	26,146	9,001	1,389	747	37,283
Malaysians	7,688	2,231	602	504	11,025
Indians and Pakistanis ..	20,407	2,629	1,511	981	25,528
Japanese	435	73	..	..	508
Other Races	1,754	444	114	107	2,419
Total, All Races ..	82,227	26,120	6,942	3,908	119,197

* Under 12 years of age.



PART II

THE HEALTH DIVISION

CHAPTER FOUR

INTRODUCTION

25. The Colony of Singapore comprises the main island of Singapore with several small surrounding islands including the Christmas Island. The main island is twenty-seven miles long and fourteen miles wide with a land area of 216 square miles. The area of the smaller islands is about ten square miles.

26. There are two Local Authorities: the City Council and the Rural Board. The City Council administers a very thickly populated area of thirty-one square miles and is responsible for all environmental and some personal health services. The rest of the area is under the jurisdiction of the Rural Board, and the Government Health Division under the direction of the Director of Medical Services is responsible for all Health Services in this area. The School Health and Curative Services are on all Colony basis.

27. The fundamental goals of public health have not changed with the changing of years although there has been much change in outlook. The conditions of perfect health, either public or personal, though attainable are seldom attained. The role of public health is not merely to extend life but to augment its power. The impact of ill health on the full physical, mental, economic and social well-being of the individual is recognised as the proper target of public health action; and prevention includes "mitigation or removal". The narrow vision of conquering specific disease entities by specific techniques is being challenged. Many public health problems have changed and so have the methods for their solution. Even the traditional fields of sanitation and communicable disease control demand new approaches and methods. It is a challenge of adjustment and adaptation to changing needs, a challenge that can hardly be fully met over a life-time.

28. In the world of today, the prospect of better health and of longer, happier lives for the people of Singapore is not a distant dream. The gap between what is possible and what is actual has been gradually narrowing. But this task does not belong exclusively or even primarily to the Health Division of the Government. It belongs to each individual and to the Communities in which he lives. The inadequacy will be fully remedied only when everyone performs his full duty as a citizen, certain that in so doing he is not only relieving distress but making a more durable contribution to the welfare of the nation.

KAMPONG SANITATION

29. With this end in view a limited programme of improvement of sanitation in nine villages was started in 1954. During the year under review similar activities have been extended to another nine villages. The response of the residents has been encouraging and in one Malay Village (Ponggol) nearly thirty new houses built have all been provided with drainage for sullage water from kitchens and bathrooms. Such simple sanitary measures were unknown to the populace prior to the inauguration of this simple community programme. Anyone who has worked in or for the introduction of public health measures in small communities soon gets convinced that public

health cannot be treated as an isolated problem and that the community itself must constitute the real focal point of interest. Culture of the people has to be studied and regardless of long range hopes, a simple project that shows obvious results in a short time has to be started. People are pragmatic to an unexpected extent and if with their own eyes they can see results that they recognise as beneficial to them, regardless of tradition and superstition, most people will give up the old and adopt the new.

30. Lest there be some misconception as to the sanitary conditions of Singapore, it is necessary to emphasise that the numbers of persons living under such primitive conditions where kampong sanitation would benefit them are very small indeed. The great bulk of the people (more than 85 per cent) are housed in the city or in the urbanised parts of the so-called rural area of the Island.

31. In 1955, 12,708 feet of channel drain were constructed, three new wells were dug and equipped with rotary pumps and four standpipes were provided with enlarged aprons. In addition scavenging services were introduced for the collection and disposal of refuse. Low lying areas were filled and subsoil drainage instituted where necessary.

OCCUPATIONAL HEALTH

32. A new trail has been broken in this respect. No substance is so toxic that it cannot be used if sufficient knowledge of its action has been made known; equally also, no substance is so non-toxic that it could be used without regard to caution. With the inauguration of an Inspectorate of Dangerous and Hazardous Materials during the year, data are being collected of the actual conditions present in the industrial establishments in Singapore to enable the department to formulate standards of occupational hygiene. As an example, in one granite quarry more than 50 per cent of the workers examined radiologically showed evidence of silicosis. Pneumatic tools came into general use in western countries between 1895 and 1900, accompanied by a tremendous increase in dust production over that produced by hand tools (not to mention vibration sickness). Dust exposures in such industries have been estimated to be about 1 to 200 million particles per cubic foot of air. Granite cutters who suffer the most severe exposure average an exposure of about 60 million particles per cubic foot of air. Drillers and crusher workers in this particular quarry were the two categories of workers who seemed to have suffered most from such exposure. It is problematical if a programme of dust control for all dust producing operations could ever be put into effect in accordance with western standards as local establishments are organised on a comparatively much smaller scale and could ill afford expensive exhaust machinery. Small masks made of a porous material have been advised for use by the workers for the present and suggestions have been made to the management for certain modifications to reduce production of dust. At least ice has been broken in this field and an officer of the department has been deputed for studies in Industrial Hygiene in England.

ENVIRONMENTAL HYGIENE

(i) *Water supply*

33. Further improvements have been made in provision of safe water supplies to the rural area. Fifty-six standpipes, twenty-four anti-malarial and thirteen other types of wells were constructed during the year.

(ii) Drainage (Anti-malarial)

34. Considerable progress has been registered each year in new construction: 9.7 miles of earth drains were dug, 2.49 miles of large sized concrete surface channels were constructed and 4.89 miles of subsoil pipes were laid to drain seepages from hill foot contours and to drain swamps to control the vectors of malaria.

(iii) Septic Tanks

35. The number of septic tanks constructed in the rural area during the year was 61, thus bringing the total number maintained by this department to 399. These tanks have a total volume of 567,000 gallons serving an estimated number of 22,700 persons.

36. The number of premises where internal sanitary fittings were completed and assessed was 1,829.

(iv) Scavenging Services

37. In exercise of the powers conferred by Sub-section (5) of Section 224 of the Municipal Ordinance, new Regulations were made and gazetted by the Rural Board for removal of refuse in the rural area. Inhabitants are now obliged by law to provide and use dust-bins of the approved types. Volume of refuse collected during the year was as follows:—

	<i>Cubic feet</i>		
Trade Refuse	977,760
Domestic Refuse	1,270,080
Drain Refuse	169,560
Garden Refuse	83,610

Final disposal has been by tipping, composting and incineration.

38. Night-soil was removed from 10,322 houses. The contents were finally disposed off by septic tank treatment, composting and trenching.

COMMUNICABLE DISEASE

39. For the fourth consecutive year no case of domestic malaria has been reported from Singapore. Malaria control method consisting of anti-larval measures and eradication of vectors, though achieved in certain inhabited areas, has been the goal for the whole of the island.

40. In spite of the special anti-diphtheria immunisation campaign in 1954, 119 cases of diphtheria were notified from rural areas. Diphtheria immunisation is not legally compulsory like vaccination against small-pox and parents still cannot be induced to get healthy children inoculated, although a mobile team is in existence to carry out immunisation at the very doorstep in isolated villages in addition to 47 Maternity and Child Health Centres.

QUARANTINABLE DISEASE

41. The International Sanitary Regulations list six diseases as quarantinable, viz. cholera, plague, louse-borne relapsing fever, small-pox, louse-borne typhus and yellow fever. Prevention of the introduction of small-pox from neighbouring countries by sea and of yellow fever by air have been the outstanding problems for Marine and Air Port Health Services. No case of any of the quarantinable diseases was discovered by these ever vigilant departments, although a case of leprosy was not allowed to land and was sent back to the country it came from by the Marine Port Health Authorities.

42. The Marine Port Health Service inspected 1,783 vessels from infected ports and examined 116,275 passengers. Total number of aircraft examined was 1,313 with 45,976 passengers and crew.

AEDES CONTROL

43. Since the resolution of the Pan-American Sanitary Organisation Conference in 1947, renewed interest has been taken in the eradication of *A. ægypti* in various American countries due to a fresh appearance of rural yellow fever in several central American States. During 1954, 15 human cases of yellow fever were reported in Trinidad. Two of these cases, both in St. George County had no history of direct association with forests and occurred in areas infested with *A. ægypti*. According to International Sanitary Regulations, a yellow fever receptive area means an area in which yellow fever does not exist but where conditions would permit its development if introduced and according to Article 20, every port situated in a yellow fever receptive area, and the area within the perimeter of every port so situated, should be kept free from *A. ægypti* both in its larval and adult stages. It was therefore essential that with the construction of the new International Airport at Paya Lebar adequate measures be taken to render the port area and its surroundings free from this mosquito. Scientifically there could possibly be three different methods of attack:—

(i) Residual house-spraying with insecticides;

(ii) Peri-focal treatment, i.e. spraying of possible breeding receptacles and of wall surfaces in the immediate neighbourhood of breeding foci; and

(iii) Larvicidal measures.

As the eggs of *A. ægypti* can survive for one year and the effect of residual spraying wears off in 3–6 months, eradication could only be claimed if there was a negative record for one year or more years.

44. The area treated was a squatter type of rural settlement consisting of numerous hyacinth ponds, 1,121 dwellings, 913 pigsties, 566 fowl coops, 341 store sheds and 49 latrine, well and bathroom enclosures with a total of 3,565,004 square feet of wall surface. In addition, a total of 182,642 bamboo stumps and tree holes had to be filled with coal tar and granite chips.

45. 239 surveys carried out from March to December revealed *A. ægypti* in only two (April and May), while *A. albopictus* has been identified either in the larval or adult stage in all surveys. The house index for *A. ægypti* has been zero for the last seven months and that of *A. albopictus* has been reduced from 33 to 4 per cent. Both house spraying and larvicidal methods had to be used. The adult killing was reinforced by swing fogging the whole area with Dieldred-15 before the opening of the Airport for general use in August 1955.

HOUSE FLY CONTROL

46. This problem arose when fly infested refuse was used in filling up low-lying areas. Daily covering with earth and the use of usual insecticides proved ineffective till orthodichlor-benzene was used as an ovicide and larvicide. It was used as a 25 per cent emulsion made with Lessapol N.300, and was liberally sprayed through a four-oak sprayer with very good results.

PERSONAL SERVICES

47. Although in the future the numbers of older people in Singapore will gradually increase it is estimated at present that 50 per cent of the population is still under 21 years of age and that by 1962 this percentage will be contributed by those under the age of 15 years. While for the economist it

presents the problem of dependency-load on the wage earner, the public health administrator has to provide requisite health services. This challenge has been met by augmentation of services in Maternity and Child Health, School Health, and Floating Dispensary Sections.

MATERNITY AND CHILD HEALTH SECTION

48. A new main centre to replace the old dilapidated rented building was built at Yio Chu Kang Road and was officially declared open by the Honourable the Minister for Health in September 1955. The total number of all types of clinics has increased from 44 in 1954 to 47 in 1955. There has been a welcome addition of 5 Lady Medical Officers, 7 Nurses and 3 Midwives to the staff of this Section during the year.

SCHOOL HEALTH SERVICES

49. The number of schools increased from 585 in 1954 to 659 in 1955 and the school population from 184,148 to 211,814. The strain on the School Health Service was relieved to some extent by the appointment of 4 additional Medical Officers and the organisation of an extra school clinic at Bukit Panjang allowed more children to receive minor treatments in the rural area.

FLOATING DISPENSARIES

50. An additional floating dispensary provided by the Rural Board has been commissioned for service to the smaller islands around Singapore inhabited by 10,000 people. These islands are being visited more frequently for treatment of minor ailments of the populace and mobile teams of the Maternity and Welfare Section look after the welfare of mothers, infants and pre-school children.

HEALTH EDUCATION

51. Good health education aims to help more people make more able decisions which will result in the maintenance and/or improvement of their health. The health education experiences most frequently referred to are: (a) the conscious formalised type of instruction whether in the school class, University, or community study group and (b) the exposure to one or more of the usual types of mass media. These kinds of experiences are related to the imparting of information and may or may not educate for action. Too frequently they do not. Individuals may become quite well informed about the ways to establish and maintain health, but until they freely choose to act in accordance with such information, they are not really 'educated' about health. Action is important. To know that vaccination protects against small-pox is to be informed, but to be vaccinated is to be 'health educated' with respect to the control of small-pox. Health education to be effective must achieve desirable action. The state of health of each individual is basically the result of his own actions.

52. Great effort has been made during the year to develop useful basic health attitudes and practices by instruction in schools, children centres, Maternity and Child Health clinics, and University classes. Two notable events have been:—

- (i) the inauguration of a course of Health Education for Community leaders, and
- (ii) the organisation of an Island-wide Health Week and exhibition.

53. Further education and training of the departmental personnel has not been neglected. Two medical officers were deputed to the University of Malaya for training in Public Health; one proceeded to Liverpool for the same purpose, and another received training in Industrial Hygiene in England. The Public Health Matron, Health Education Officer and the Chief Health Officer were allowed to partake in Nursing, Health Education and Nutrition Seminars, and Family Planning Conference in Fiji, Philippines and Japan respectively. Two nursing sisters proceeded to the United Kingdom for Health Visitor's Course and training.

VITAL STATISTICS

54. There is no yardstick to measure the yearly improvement of the health of a people, but with the development of health programmes, improvement of environmental sanitation and prevention of infectious disease, mortality rates in all advanced countries have been considerably reduced, and a further decline of such rates in Rural Singapore in 1955 is some index of the effectiveness of the activities and measures adopted by this Division:—

	1955	1954	1953
Estimated mid-year population in Rural Singapore ...	348,312	334,514	320,073
Total Deaths ...	2,337	2,416	2,611
Crude Death Rate ...	6.71 per mille	7.2 per mille	8.5 per mille
Total Births ...	15,570	15,996	15,242
Birth Rate ...	44.7 per mille	47.8 per mille	47.6 per mille
Infant Deaths ...	693	752	842
Infant Mortality Rate ...	44.51 per mille	47 per mille	55.2 per mille

55. The Chief Health Officer was Dr. L. M. Ram, M.B.B.S., M.R.C.P., D.P.H.



D.I.S.

Aedes control, Paya Lebar Airport. A well sanitated kampong in Airport area



Health Education Office

Completed portion of Channel Drain showing storm water ledges and storm water discharge pipe



Health Education Office

Residual spraying with D. D. T. inside a house



Health Education Office

Larvæ collecting

CHAPTER FIVE

INFECTIOUS DISEASES IN RURAL SINGAPORE

56. The number of cases of the various infectious diseases notified from the rural area during the year were as follows:—

<i>Disease</i>				<i>Cases</i>
1.	Pulmonary tuberculosis	...	...	610
2.	Chicken-pox	...	...	418
3.	Diphtheria	...	...	119
4.	Enteric fever	...	...	44
5.	Leprosy	...	...	39
6.	Puerperal fever	...	...	24
7.	Poliomyelitis	...	...	15
8.	Scrub Typhus	...	...	4
9.	Erysipelas	...	...	3

No case of quarantinable disease has been reported.

PULMONARY TUBERCULOSIS

57. The number of cases (613) notified from the rural area is the same as last year (610) or less than two persons per thousand of population. It is difficult to get accurate figures of morbidity in any country and more so in Singapore because of the diversity of races, difficulty of language, lack of educational and medical facilities in the rural areas, wrong information supplied by the patients or their relatives, non-compliance with notification laws and the acute dearth of medical practitioners.

58. Treatment and control of tuberculosis is carried out by Government chest physicians attached to Tan Tock Seng Hospital assisted by almoners and health visitors. The other two organisations concerned in the same type of work are the Royal Singapore Anti-Tuberculosis Clinic and the Medical Services of the Armed Forces.

59. Sir Harry Wunderley's visit from Australia during the year has further stimulated efforts towards the formation of a central organisation to carry out systematic case-finding in various groups and localities in Singapore.

60. The Health Division is chiefly concerned with health education of the public and prevention of tuberculosis amongst school children. A separate sub-section with requisite staff under a school tuberculosis officer has been in existence for several years. During the year 76 schools were visited, 13,059 school children and other school personnel were X-rayed, 9,221 children were Mantoux tested and 3,274 were vaccinated with B.C.G. with a conversion rate of 70.6 per cent. The number of infective cases detected was 207 or just less than 1.6 per cent of all the cases X-rayed.

CHICKEN-POX

61. The apparent incidence of this disease has been rapidly increasing during the last few years in line with the increase in the number of school children. The following table enumerates figures for the last five years.

<i>Year</i>			<i>Cases</i>	<i>No. of Schools</i>
1951	...	...	186	532
1952	...	...	128	537
1953	...	...	212	560
1954	...	...	359	563
1955	...	...	418	595

DIPHTHERIA

62. In spite of a mass immunisation campaign organised by the department last year when nearly 31,000 children between the ages of six months and five years were immunised the reported incidence of this disease is still on the upgrade. Some of the apparent increase in incidence is no doubt due to better health education of the people due to better reporting. The increase in the child population due to the high birth rate during the last several years has also to be taken into consideration. It is encouraging to note, however, that of 11,519 children immunised during the year no less than 9,182 received the required two injections. The incidence for the last five years has been as follows:—

Year			No. of cases
1951	..	...	90
1952	...	...	111
1953	...	...	95
1954	...	...	81
1955	...	...	119

63. The death rate from diphtheria has been just less than 9 per cent of the reported cases. The following tables give the nationality, age-group and sex:—

DIPHTHERIA CASES FOR 1955

		According to Age-Group					
Age-Group		0-11 12	1-5	6-9	10-14	15-16	Above
Chinese	...	11	81	14	4	—	1
Malays	...	—	4	—	—	—	—
Indians	...	—	2	2	—	—	—
Others	...	—	—	—	—	—	—
Total	...	11	87	16	4	—	1
Grand Total					...	119 cases	

DIPHTHERIA CASES FOR 1955 ACCORDING TO NATIONALITY AND SEX

		Male	Female	Total
Chinese	...	65	46	111
Malays	...	3	1	4
Indians	...	3	1	4
Others	...	—	—	—

ENTERIC FEVERS (TYPHOID)

64. Although more cases (44) of enteric fever have been reported during the year than in 1954 (26), the incidence is still remarkably low for a tropical country. There were two limited minor outbreaks of the disease at (i) Pulau Brani and (ii) Woodbridge Mental Hospital.

(i) *Pulau Brani*—There were four cases reported in March when 2,500 persons were inoculated with T.A.B.; 28 stool specimens were examined from food vendors and suspected contacts and over a hundred specimens of blood were taken for VI agglutination with negative results.

- (ii) *Woodbridge Hospital*—Six cases were reported in October. Again an outside food vendor was suspected as a carrier but was not identified. Blood and faecal specimens from patients, attendants and members of the kitchen staff proved to be negative. Other cases were of a sporadic nature.

LEPROSY

65. The local leprosarium has developed on the open village principle and is designed to accommodate about one thousand patients. The disease is being steadily brought under control, although it is estimated that about 200 infectious cases in the Colony may still be at large. Health education of the public and the chances of an early cure are two of the factors relied upon for less concealment of the disease. The number of cases reported from the rural area for the last five years has been as follows:—

<i>Year</i>			<i>No. of cases</i>	
1951	79
1952	38
1953	48
1954	34
1955	39

POLIOMYELITIS

66. After the sharp epidemic outbreaks of 1946, 1948 and 1950 the disease has become noticeably endemic and incidence in the local population is almost entirely confined to children under ten years of age. Fifteen cases were reported from the rural area in 1955 with one fatality. The incidence during the last five years has been as follows:—

<i>Year</i>			<i>No. of cases</i>	
1951	79
1952	38
1953	48
1954	34
1955	15

CHAPTER SIX

HYGIENE AND SANITATION IN THE RURAL AREA

67. The development of rural sanitation programme in Western Countries has followed the development of such programmes in urban and suburban areas of relatively high population density. Due to organisation of re-settlement areas for “squatters” and increasing activity of housing estates to accommodate the urban dweller in the country side, the proverbial isolation of rural villages and farm homes in Singapore is rapidly fading and the rural population now contributes measurably to the environmental health problems of the Colony. It has been estimated by the World Health Organisation that twenty per cent of the deaths in the world today are due to faulty environment. Excremental diseases are still a leading cause of death in many tropical countries and effective methods of control of some other diseases related to the environment are not yet developed. A variety of disciplines are needed to solve the many and complex problems of sanitation where collaboration of an epidemiologist and a sanitarian is clearly indicated. Problems of water supply and waste disposal will not be satisfactorily solved until technically sound and sociably acceptable methods have been devised. Sanitary programmes produce economic gains and help to control or to eradicate disease, and as a result of improvements in health, a larger number of persons are gainfully employed. Economy expands because of new markets and new sources of labour and materials.

SINGAPORE ORGANISATION

68. The rural area of Singapore is divided into seven sanitary districts and the field staff during the year consisted of:—

			1954	1955
Rural Health Officers	...	...	2	3
Public Health Engineer	...	...	1	1
Supervisor of Public Health Works	...	...	1	1
Chief Sanitary Inspector	...	...	1	1
Senior Sanitary Inspectors	...	...	2	2
Sanitary Inspectors	...	...	17	19
Technical Subordinates	...	...	30	32
Other workmen	...	...	431	605

69. Conservancy services are carried out by a separate cleansing Section of the Rural Board under the direct supervision of the Chief Health Officer.

70. The sanitary staff in the various districts is chiefly concerned with:—

1. Malaria Control.
2. Water Supplies.
3. Inspection of houses and maintenance of water-borne system of sewage disposal.
4. Food inspection in relation to disease and administration of Food and Drugs Ordinance.
5. Occupational Health.
6. Village Sanitation and
7. Other Infectious Diseases.

MALARIA CONTROL

71. Control of malaria or its eradication has been the cherished goal of every sanitarian in Singapore for many years. There are three organisations with highly technical staff grouped in special anti-malarial units, which have been engaged for over a quarter of a century in this arduous task, viz. the City Council, the Armed Services and the Government Health Division. The chief method adopted by all the three has been the larval control of the vectors—*A. maculatus* and *A. sundaiicus*. This entails the laying of subsoil pipes, construction of permanent surface drainage, digging of ditches, the use of anti-malarial oil and spraying of insecticides.

72. 8,514 yards (4.84 miles) of subsoil pipe lines were laid and details of other work are as hereunder:—

All Districts:—

1. Length of open channel concrete drain constructed	8,629 yards
2. Length of open concrete drains repaired ...	2,789 ..
3. Length of subsoil pipe line repaired, including rodding and relaying	7,240
4. Length of fascine drain constructed ...	355 ..
5. Length of concrete pipe flume constructed ...	65 ..
6. Length of earth drains dug (constructed) ...	17,775 ..

73. 77.2 miles of concrete surface drains and 263 miles of subsoil drainage were adequately maintained. Allocation of new sites for resettlement of squatters and housing estates necessitated the increase in area controlled by oiling from sixty-six square miles during the year. The total amount of A.M. oil used during the year was 66,145 gallons; 169 gallons of kerosene oil were used for controlling breeding in wells. In the smaller islands around Singapore, residual spraying of houses twice a year with D.D.T., Gammexane or Dieldrin has been the usual practice for the last several years, 6,352 gallons of emulsion were used in 1955.

MOSQUITO SURVEYS

74. The small laboratory section is not only engaged in checking and testing the effectiveness of the anti-malarial oil used for brush spraying of the mosquito breeding areas but is also responsible for carrying out frequent surveys both in "controlled" as well as in other developing areas—agricultural or built-up. Eighty-nine routine malarial surveys were carried out. The control programme of *aedes ægypti* and *aedes albopictus* at the International Airport at Paya Lebar necessitated another 239 surveys for the purpose. The tables on pages 48–50 detail the results of these surveys.

AEDES CONTROL

75. The intensive campaign against *Aedes ægypti* and *Aedes albopictus* has continued during the year within half a mile of the perimeter of the International Airport at Paya Lebar in an area of just over six square miles. The Chief measures adopted have included health education, introduction of scheduled scavenging services and destruction of mosquitoes both in larval and adult stages.

RURAL MALARIAL SURVEY FIGURES—1955

Month	Number of surveys	<i>A. maculatus</i>	<i>A. karwari</i>	<i>A. sundaiicus</i>	<i>A. baezai</i>	<i>A. separatus</i>	<i>A. hyrcanus</i>	<i>A. Kochi</i>	<i>A. vagus</i>	<i>A. barbistrotris</i>	<i>A. leucosphyrus</i>	<i>A. aitkeni</i>	Culex	Stegomyia	Remarks
January	13	2	..	..	..	..	43	28	6	..	..	..	3	12	
February	5	1	..	..	..	..	4	8	1	..	..	..	5	33	
March	..	..	..	..	..	..	..	..	..	..	..	..	..	..
April	..	..	..	..	..	..	..	..	..	..	..	..	..	..
May	11	5	..	..	..	1	34	45	7	..	..	..	..	..
June	5	..	..	1	..	..	14	6	1	..	..	..	23	10	
July	1	..	..	..	2	..	..	..	..	..	..	..	..	..
August	4	6	..	..	1	..	5	10	2	..	..	..	..	..
September	18	15	1	7	..	..	44	48	5	..	..	..	6	29	
October	13	15	..	5	..	1	28	27	2	..	..	..	1	..	
November	7	4	..	3	..	..	15	10	4	..	..	..	2	..	
December	12	3	..	4	6	..	20	15	6	..	..	..	27	43	
Total	89	51	1	20	9	2	207	197	34	..	..	..	67	127	

Month		Number of surveys	A. (Stegomyia) ægypti	A. (Stegomyia) albopictus	A. (Armigeres) obtoburns	Culex	Remarks
January ..	..	..	..	..	..	..
February ..	..	..	..	..	..	..
March ..	..	28	..	75	..	..
April ..	..	28	1	158	4	..	
May ..	..	27	2	147	4	..	
June ..	..	24	..	103	1	..	
July ..	..	31	..	336	4	507	
August ..	..	5	..	33	..	..
September ..	..	20	..	46	..	2	
October ..	..	21	..	42	..	..
November ..	..	39	..	129	9	46	
December ..	..	16	..	11	..	..
Total ..		239	3	1,080	22	555	

COLONY OF SINGAPORE

SPECIAL SURVEY 1955

1955	Number of days												Stegomyia
	A. maculatus	A. sundanicus	A. baezai	A. karwari	A. separatus	A. hyrcanus	A. kochi	A. vagus	A. barbirostris	A. leucosphyrus	A. aitkeni	Culex	
January	3	12
February	1	..	..	..	..	5	33
March
April
May	1	2	9	2	..	..	..	..	..
June	1	..	..	..	..	..	21	8
July	2	..	..	..	..	..	..	..	..	..	..
August
September	..	3	..	1	..	6	13	..	..	..	..	6	29
October	..	3	..	..	1	4	11	..	..	..	..	..	..
November	..	1	..	..	..	..	..	..	..	..	..	..	..
December	..	4	1	..	..	2	2	..	..	..	..	27	43
Total ..	15	11	3	1	2	15	36	2	..	..	..	62	125

(i) *Health Education*

76. The Health Education Officer organised a drive against ignorance of health matters with the help of various films, talks and posters. The help of the members of the district rural committees and of the four principals of the Chinese schools in the area was enlisted for the purpose and a health education course was organised to train leaders. This programme was further reinforced by house to house visits of a member of the sanitary staff who further stressed the adoption of simple sanitary measures.

(ii) *Scheduled Scavenging Services*

77. The whole area covered with secondary jungle has been cleared, thus reducing the harbouring places of the adult mosquitoes during day time. It also helped in the collection of 35 tons of tin and other possible water containers hidden in the tall bush where breeding of mosquitoes could have gone on unhindered. Every householder was asked to provide a dustbin for the premises and the refuse collected was disposed of by controlled tipping in unused ponds.

(iii) (a) *Destruction of Larvæ*

78. As pointed out in the foregoing paragraph, removal of tons of artificial containers helped a great deal in reducing the breeding places of these mosquitoes. Natural breeding places like bamboo stumps and tree holes were filled with coal tar and granite chippings. 138 gallons of coal tar and 3½ tons of granite were used in stopping 182,642 stumps and tree holes. This work required constant vigilance as bamboo were apt to be felled frequently for domestic use.

(b) *Destruction of Adult Mosquitoes*

79. To attain this end, 3,563 gallons of Dieldrex-15 emulsion were used for residual spraying of 1,121 dwellings, 913 pigsties, 566 fowl coops, 341 storehousings and 49 wells, latrine and bath room enclosures with a total area of 3,565,004 square feet of wall surface, leaving a deposit of 28 milligrams per square foot. In addition the whole area was swing-fogged with Dieldrex prior to the opening of the airport for regular traffic.

80. House to house check surveys made throughout the year with the help of 122 artificial check points made of bamboo stumps and milk tins revealed no breeding of *A. ægypti* for the last seven months. The general *Aedes* index has fallen from 33 in 1954 to 4 in 1955 mainly due to the presence of *A. albopictus*. Although the airport area is surrounded by *Aedes ægypti* infested localities, its absence for more than seven months in the controlled area inhabited by illiterate squatter families is encouraging.

WATER SUPPLIES

81. "Clean water for better health" was the theme of the World Health Day on April 7, 1955, marking the seventh anniversary celebration of the World Health Organisation. Clean water is one which is at all times free from contamination and safe for human consumption. Provision of such a water supply for all the people in the world is an enormous problem. Even in advanced countries like the United States of America, the President's Economic Report to the Congress in 1954, estimated the clean water programme to cost about six thousand million dollars.

82. In rural Singapore the problem is two-fold, of sufficiency and safety. Every year during dry weather the Rural Board has to supply drinking water to several areas on the mainland by water wagons and by boats to the smaller islands around Singapore. Shallow wells are usually the chief source of water supply and they dry up during drought. In some small islands there is no suitable water holding stratum and water in any type of well is brackish. Rain water cannot be collected and stored as the roofs of the houses are of a permeable material. As the water mains are extended along the major roads in the Colony, the Rural Board provides standpipes for the resident communities nearby. 56 such standpipes were installed in 1955. A useful by-product of anti-malarial subsoil drainage has been the provision of a relatively 'safe' water supply both for drinking and ablution purposes in all districts of the rural area by making use of subsoil water in specially constructed wells. 24 such wells were constructed during the year. In addition, the department dug 13 other wells of a sanitary type.

HOUSING AND WATER-BORNE SYSTEM OF SEWAGE DISPOSAL

83. Housing development in the rural areas, both under private and public enterprise continued at an accelerated rate during the year. Three new housing estates commenced their operations at Thomson Rise, 7th m.s. Thomson Road and Oei Tiong Nam Park. While most of the housing construction was confined to the low and medium cost group, the general trend in both was towards the provision of a water-borne system of waste disposal.

84. The general public has now begun to appreciate that properties with modern sanitation have other advantages, besides an enhanced value in the housing market, both in re-sale and rental values. It has been observed that in renovating a number of old properties the owners have thought it desirable to include the installation of a water borne system discharging to individual septic tanks. This welcome change towards sanitary consciousness is being constantly encouraged.

85. The increase in the number of small installation with soakaway systems in cases where soil conditions have been suitable was mainly due to the reduced costs of construction that have been made possible by the elimination of the usual filters and allowing the septic tank effluent to soak away into the porous soil by subsoil pipes. Altogether about 26 septic tank systems using soakaways were constructed during the year.

NUMBER OF TANKS CONSTRUCTED AND MAINTAINED

86. The number of septic tanks, including one of over 10,000 gallons capacity constructed during the year and assessed by the Rural Board, was 61—thus bringing the total number of septic tanks maintained by the Government Health Department to 399. The number of tanks nearing completion, or recently completed but under observation and not yet taken over for maintenance was 68. There were 10 septic tank installations under construction, including two 80,000 gallons tank in the Serangoon Garden Estate, one 10,000 gallons tank in Thomson Rise and another at Harvey Avenue.

87. Closely related to the great increase in the number of both small and big sewage disposal plants constructed in 1955 was the proportionate increase in houses fitted with modern sanitary installations. a record number of 1,829 houses fitted with such installations were inspected and certified and 410 building plans and 201 S.I.T. plans were received and dealt with.

CHEMICAL CLOSETS AND RURAL BOARD LATRINES

88. The number of chemical closets installed during the year was 19. While these closets were a suitable substitute for unsewered areas, they had not proved very popular because of some odour from such installations and also because of the need by the householder of constant and expert maintenance in order that these chemical closets could function properly. These disadvantages had no doubt, at least in part, influenced the public to change over to the septic tank.

89. Rural Board type latrines continued to be built in semi-permanent houses, but it was observed where owners could afford it, a water-borne system of sewerage was preferred.

FOOD INSPECTION AND ADMINISTRATION OF FOOD AND DRUGS ORDINANCE

90. One can hardly overestimate the importance of food and drugs as part of the human environment. Purity of these products is a health essential, yet any of the many thousands of products can deteriorate or be debased or contaminated in ways that will be injurious—even fatal—to the consumer. Of course, any of them can be adulterated or mislabelled to serve the ends of deception and fraud. A sanitarian generally inspects and examines these articles from three points of view:—

- (a) *Health*.—Whether the article is free from pathogenic organisms and toxic materials and that the manufacturing process has been competent for the purpose.
- (b) *Sanitation*.—Whether the article has been prepared in a sanitary plant from clean ingredients.
- (c) *Economic*.—Whether the article of food has been made from standard ingredients laid down for that particular product.

91. In a tropical country where most of the factories for food manufacture are of a sub-standard variety, and the number of hawkers and food peddlers are out of all proportion to the population, constant vigilance is essential. Soya bean milk from one of the manufacturing plant was found to be heavily contaminated with dangerous quantities of lead and copper and canned lychees from one of the manufacturers from Hong Kong were discovered to have contained toxic amounts of lead.

FOOD INSPECTIONS

92. The following table shows the number of food premises inspected during the year:—

			Total No.	No. of Inspections
Food Preserving Factory	...	...	6	250
Noodle Factories	...	...	15	360
Bakeries, Biscuit Factories and Confectionaries			42	1,258
Aerated Water Factories	...	...	3	70
Coffee Grinding Factories	...	...	8	60
Markets	...	...	13	2,081
Hawkers and Fishmongers	...	...	566	10,555
Eating Houses and Coffee Shops	...	...	557	16,592
Food Stalls	...	...	164	5,130

FOOD PRODUCTION

93. Inspection of places of food production is just as essential to prevent disease:

94. *Agriculture*.—Three new areas for resettlement of squatter farmers have been opened at—

(i) Jurong Road 14 m.s. ...	...	80 acres
(ii) Tampenis Road 10 m.s. ...	...	45 acres
(iii) Yio Chu Kang Road ...	...	75 acres

Systematic inspection of these sites has been regularly carried out and farmers were encouraged to use compost or chemical fertilisers in place of fresh human excreta.

95. *Piggeries*.—Many of the Chinese agricultural workers try to eke out an existence from pig-farming on a small scale, the number of pigs in such establishment seldom exceeding twenty. The sanitation of such pigsties has always been an uphill task as few farmers could afford the expense involved in such improvements. The number of licensed piggeries varies greatly from year to year chiefly on account of the same reason.

96. The number of piggeries in various districts during 1955 was as follows:—

<i>Rural District</i>				<i>No. of Piggeries</i>
Bukit Panjang	...	...	...	669
Bukit Timah	...	...	...	455
Serangoon	...	...	...	312
Changi	...	...	...	246
Sembawang	...	...	...	217
Bedok	...	...	...	190
Pasir Panjang	...	...	...	170
Total			...	2,259

97. *Cattlesheds and Dairies*.—‘The Malayan Farms’ have installed a small pasteurising plant at Bukit Panjang—the first of its kind in rural Singapore. Unlike the Chinese farmer, the Indian workman keeps a few head of cattle to augment his income.

98. *Pisciculture*.—There has not been any appreciable increase or decrease in the number of fish and prawn ponds during the year under review. They number about 280 in the various rural districts. The fish ponds, 240 in number always require constant attention as they become the breeding places for *A. sundaicus*.

99. The number of prosecutions conducted during the year was as follows:—

<i>Prosecutions</i>		<i>Number</i>	<i>Fines</i>
			\$
Under Section 194 (Hawkers' Stalls)	...	230	1,670
Under Section 195 (Itinerant Hawkers)	...	281	1,835
Under Section 211 (Offensive Trades)	...	100	2,560
Under Eating House By-laws	...	16	495
Under Food and Drugs By-laws	...	14	625
Under Piggery By-laws	...	11	312

OCCUPATIONAL HEALTH

100. The inauguration of an Inspectorate of Dangerous and Hazardous Materials by the Government of Singapore enabled this department to carry out a detailed survey of 186 of the major industrial establishments in the rural area. An encouraging feature of these inspections has been the willingness and co-operation of the management to comply with the recommendations made for improvement of the working conditions of the labour, sanitary accommodation, or provision of canteens and protective clothing and other similar amenities.

101. Tables I and II detail the various types of industries and the number of workers employed in each:—

TABLE I

<i>Type of Industry</i>	<i>Number</i>	<i>Approximate number of workers</i>
(a) Rubber Mills, Smoke-houses and Rubber products	30	3,446
(b) Woodworking, furniture making and sawmills ...	13	604
(c) Hume asbestos and drums and metal works ...	9	1,720
(d) Granite Quarries, Brickworks and Lime making ...	36	2,018
(e) Gases and Bitumen Products ...	3	200
(f) Rattan bleaching ...	3	75
(g) Lead recovery and Tin smelting ...	4	900
(h) Sago washing ...	5	130
(i) Chewing Gum base factory ...	2	100
(j) Yarn and Rope Making ...	2	500
(k) Perfume Making ...	2	26
(l) Battery Making ...	1	250
(m) Incense Making ...	1	8
(n) Shoe Polish Making ...	1	150
(o) Assembly of Cars and Trucks ...	1	500
(p) Soap Making ...	15	206
(q) Food Factories e.g. refining of cooking oil, sauce making, coffee grinding, soft drink manufacturing, food can- ning and vermicelli making ...	23	1,230
(r) Pineapple Canning ...	2	500
(s) Bakeries and Cake Shops ...	20	560
(t) Beer and Stout Factory ...	1	300
(u) Creameries and Milk Packing ...	2	50
(v) Tannery ...	2	57
(w) Candle Making ...	3	24
(x) Paper Products Factories ...	3	50
(y) Glass and Lamp Making ...	1	70
(z) Manure Making ...	1	10
Total ...	186	13,284

102. In addition, there is a large number of family establishments where other outside workers are not employed.

TABLE II

<i>No. of Workers in Establishment</i>			<i>No. of Establishments</i>
Over 100 workers	...	...	30
50 to 100 workers	...	...	34
25 to 50 workers	...	...	35
Under 25 workers	...	...	87
			—
Total			186
			—

SILICOSIS

103. With the co-operation of the Department of Clinical Medicine, General Hospital, an investigation was made as to the incidence of Silicosis in workers in Granite Quarries.

104. 61 workers in one establishment were examined of whom 32 showed evidence of silicosis and seven of these suffered from pulmonary tuberculosis as well. Altogether 13 cases of the latter were detected. The drillers and workers at the crushers showed the highest incidence of silicosis (5 out of 6 crusher workers and 9 out of 11 drillers).

105. 60 per cent of the workers exposed for over twenty-years, 50 per cent of those exposed for 10–20 years and 45 per cent of those exposed for less than 10 years showed Grade I, II or III type of Silicosis. None under 10 years category had Grade II or III type of lesions. The X-ray appearance was taken to be the sole criterion for such grading.

106. Dust collected at the crusher was analysed and revealed that 2 per cent of the particles were less than 10 micra; 0.8 per cent of these were less than 6 micra and 0.5 per cent less than 5 micra. The under 6 micra material contained 10.5 per cent free silica (quartz). Wearing of simple masks by the workers has been recommended to mitigate the evil effects of inhalation of such silica laden dust.

107. Similarly, a lead extraction from discarded motor car batteries plant had to be re-designed in accordance with the recommendations of the Inspectorate of Hazardous Materials and this department.

OTHER AMENITIES

108. Only a few of the large industrial establishments house their workmen in modern low-cost housing estates provided with piped water supply, electric installations, modern sanitation, canteen facilities and play grounds. Many of the workers are recruited from villages nearby and are occupied in market-gardening or pig rearing in their off duty hours. Some of the establishments provide out-patient medical facilities under the supervision of a trained hospital assistant or other qualified personnel including a weekly visit by a medical practitioner. There has been appreciable improvement in the general welfare of the worker in rural areas during the year 1955 including better schemes for leave, bonus, wages and provident fund.

VILLAGE SANITATION

109. The ultimate unit of the primarily rural economy is the village. Since the latter half of 1954, an attempt has been made to initiate community work in way of improvement in sanitation in such units. The Rural Board made an allocation of \$20,000 for the purpose in 1955.

110. 4,762 yards of earth drains were dug and 12,708 feet of concrete channel drains were constructed in these villages. In addition 4 culverts of 18" diameter and 15 feet in length were laid in two villages, two bucket latrines were constructed in another, one well was repaired and three new ones were constructed including one tube well in another three. Other minor improvements effected consisted mainly of turfing of drain slopes, construction of retaining walls, providing of cement aprons for standpipes and introduction of scavenging services. Emphasis has been laid on drainage as it has been found to be uniformly lacking in all the kampongs, and its institution could convey a remarkable visual impression specially during the rainy weather which helped in gaining the confidence and co-operation of the inhabitants. A swamp in Pulau Bukom Kechil has been drained and converted into a playing field. Extension programme of reclamation of land at Ponggol Point continued during the year adding considerably to the area of the playground attached to the Rotary Club School. The inspection visits of the personnel of this department are no longer dreaded; on the contrary they are welcomed by the village folk.

CHAPTER SEVEN

MATERNITY AND CHILD HEALTH SERVICE IN THE RURAL AREA

111. The main functions of the Maternity and Child Health Services are:—

- (1) Promotion of healthy, physical, mental and emotional development of children.
- (2) Prevention of infectious diseases.
- (3) Prevention of accidents by educating the mothers in the proper care of children.
- (4) Detection of defects and early ascertainment of handicapped children.
- (5) Provision of medico-social needs of special groups such as adopted children and neglected children.

112. These functions are carried out by the various services provided by the Maternity and Child Health Centres. They are:—

- (1) Ante-natal care.
- (2) Domiciliary midwifery.
- (3) Post-natal care.
- (4) Home visiting.
- (5) Infant Health and pre-school clinics.
- (6) Dental care.
- (7) Prophylaxis against small-pox, diphtheria and congenital syphilis.
- (8) Recommendation of cases to the Social Welfare Department.
- (9) Distribution of free powdered milk.
- (10) Family Planning Clinic.

Staff

113. As from July 1955, there was an increase in the number of lady medical officers from 3 to 8. One doctor is in charge of 2–3 main centres and 2–3 sub-centres, so that, unlike former times when doctors were not available at all clinics and abnormal cases had to travel from one clinic to the other to see the doctor, a doctor is now in attendance at all clinic sessions.

114. The nursing staff situation is still inadequate and in the later half of the year was aggravated due to the fact that two sisters and one health nurse proceeded to the United Kingdom on study leave and one sister was transferred to the Social Hygiene Hospital.

115. The staff during the year consisted of:—

- 1 Lady Medical Officer (Administration),
- 7 Lady Medical Officers,
- 1 Public Health Matron, Grade I,
- 1 Public Health Matron, Grade II (*Acting*),
- 6 Health Sisters,
- 25 Health Nurses and
- 50 Health Midwives.

Health Centres

116. The number of Maternity and Child Health Centres was increased from 44 to 47 and there were a few extensions to old buildings. With the addition of a second floating dispensary more islands are visited and the visits are more frequent and regular.

117. The number of Maternity and Child Health Centres are:—

<i>Area</i>	<i>8 Main Centres</i>	<i>3 Midwife Centres</i>	<i>20 Non-Residential Sessions</i>
West	Pasir Panjang Holland Road Bukit Timah Bukit Panjang Tuas Jurong 10 m.s. Lim Chu Kang Pulau Brani	Bulim Department of Broadcasting St. John's Island	Penjuru. Race Course Princess Elizabeth Estate. Tanjong Kling. Woodlands. Kampong Blukang. Kampong Bajau. Tanjong Murai. Damar Laut. Pulau Sudong. Pulau Seking. Pulau Semakau. Pulau Seraya. Pulau Bukom Kechil. Pulau Semulum. Lazarus. Ayer Merbau. Pesek. Ayer Merlimau. Chawan.
<i>Area</i>	<i>4 Main Centres</i>	<i>1 Midwife Centre</i>	<i>3 Non-Residential Sessions</i>
Central	Yio Chu Kang Thomson Road Mandai Lim Ah Pin	Kim Chuan Road	Sembawang. Ponggol. Yio Chu Kang (Chia Keng).
<i>Area</i>	<i>4 Main Centres</i>	<i>1 Midwife Centre</i>	<i>3 Non-Residential Sessions</i>
East	East Coast Road Ulu Bedok Changi Kampong Batak	Pulau Tekong	Ayer Gemuroh. Tampenis. Pulau Ubin.

Ante-natal work

118. The pregnant mothers appreciate ante-natal care more now than in previous years. They attend at an earlier date in their pregnancy, and have benefited a great deal in their general health by having their anæmia, worm infestation, malnutrition and pre-eclamptic toxæmia treated. Consequently there are less complications during parturition and healthier babies are born.

New ante-natal cases	...	...	...	11,837
Revisits	...	...	...	38,642
Total attendances	...	...	...	50,479

119. Anæmias are still the chief complaints, probably the cause is nutritional and deficiency anæmia or secondary anæmia due to worm infestation. The ante-natal mothers from Yio Chu Kang, Tampenis and Mandai areas suffer more from anæmias than other districts. Those whose hæmoglobin

is between 30 per cent–60 per cent are treated, but if the hæmoglobin is below 30 per cent the affected mother is usually referred to Kandang Kerbau Hospital for blood transfusion.

Ante-natal mothers	...	...	11,837
With hæmoglobin below 30%	...	...	16
With hæmoglobin 30–40%	...	...	74
With hæmoglobin 40–50%	...	...	245
With hæmoglobin 50–60%	...	...	1,375
With hæmoglobin 60–70%	...	...	4,297

Domiciliary Midwifery

120. Most of the births in the rural areas are conducted by Government midwives stationed at the various clinics. Due to the difficulty in getting transport in the night and the distance of some homes from the clinics more than half the cases are born before the arrival of the midwife. To overcome this setback it has been planned to build kampong midwives' quarters so that a midwife can be stationed in the midst of a kampong.

121. Out of 7,852 midwifery cases attended by Government midwives, 4,481 cases were born before the arrival of the midwife.

	1955	1954
Confinements attended by Government Midwives	7,852	8,180
Confinements attended by private Midwives		
Class B	4,481	4,522
Confinements attended by private Midwives		
Class C	397	389
Confinements attended in Military and Naval Hospitals	351	260
Confinements attended in private Maternity Homes	173	—
Confinements attended in City area and registered in rural area	15	—
Self confined cases	600	368
Unknown	268	44
Confinements in Kandang Kerbau Hospital ...	1,883	2,233
Total ...	16,020	15,996

Total births registered in rural areas ... 15,589

122. The Government midwives attended slightly more than half the midwifery cases in the rural areas. They also carried out further nursing of puerperal mothers and new born babies who were discharged from Kandang Kerbau Hospital on the third day of confinement.

Homes visited by midwives	...	55,844
Nursing visits made by midwives	...	42,531

123. The abnormal deliveries attended by Government midwives are given below. Some of these were given first aid and then sent to Kandang Kerbau Hospital for specialised treatment.

Breach	...	80
Hand presentation	...	4
Face presentation	...	4
P.O.P.	...	5
Pre-eclamptic toxæmia	...	85
Eclampsia	...	5
Ante-partum hæmorrhage	...	48
Post-partem hæmorrhage	...	213
Retained placenta	...	48
Hydramnios	...	13



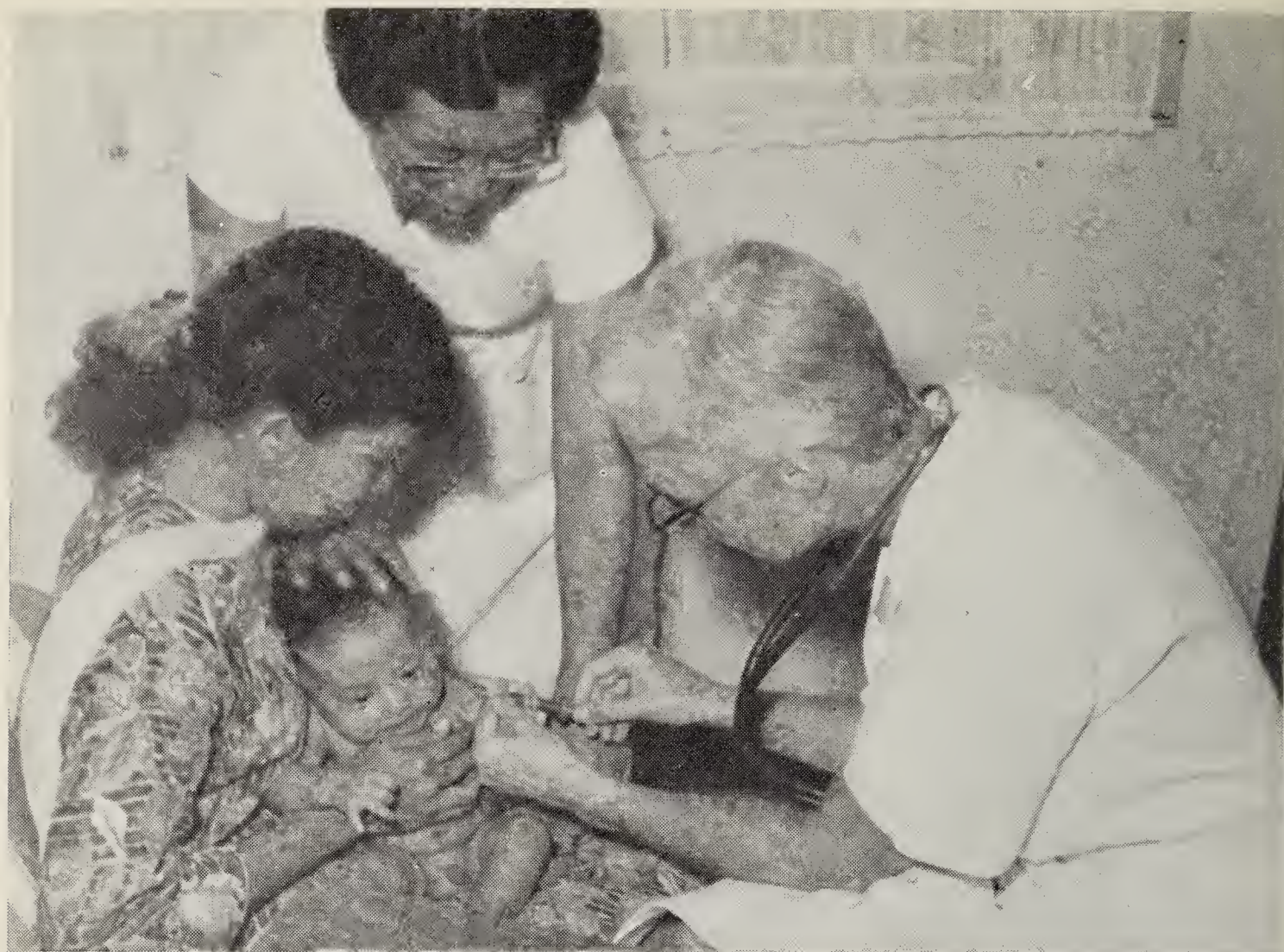
Health Education Office

Nurse demonstrates how to bathe baby. Clean the eyes first



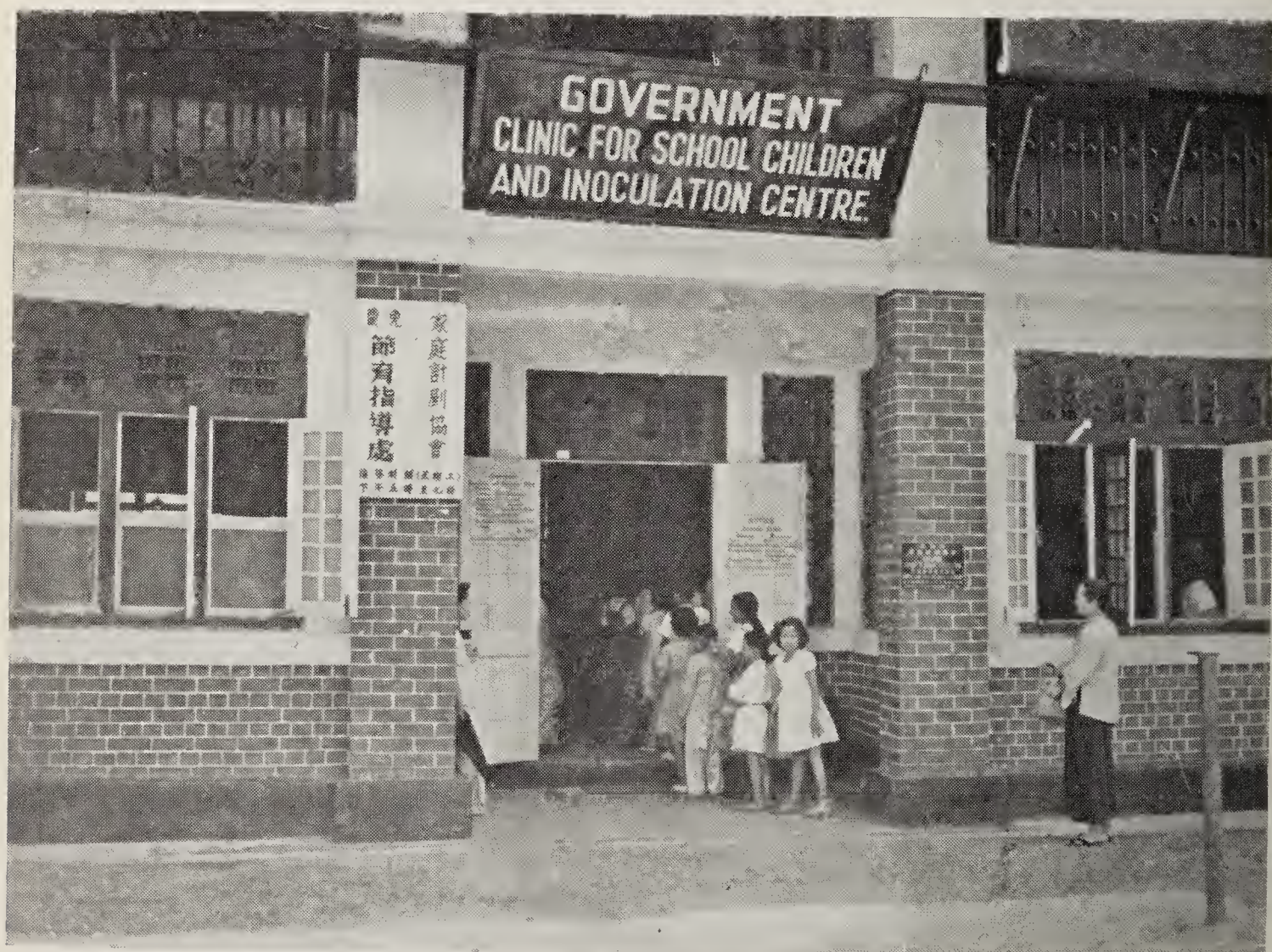
Health Education Office

Distribution of free cod liver oil, vitamins, and powdered milk at Maternal and Child Health Clinic



Health Education Office

Baby being immunized against Tuberculosis by Lady Medical Officer



D.I.S.

A clinic for school children

124. Seven hundred and thirty-eight cases with complications during labour were sent by Government midwives to Kandang Kerbau Hospital.

Maternal deaths	...	...	4	(died in district)
Maternal deaths	...	...	8	(died in Kandang Kerbau Hospital)
Prematures 5 lbs. and under	...	...	351	
Twins	...	...	41	
Still births	...	...	96	
Neo-natal deaths	...	...	102	
Abortions and mis-carriages	...	...	56	

Post-natal care

125. Post-natal mothers are still reluctant to come to the clinics six weeks after delivery for a proper post-natal examination but the attendances are improving.

New post-natal cases	...	...	4,053
Revisits	...	...	2,487

126. Normal cases need not come for a revisit, only those with abnormalities are told to come again. The usual abnormalities are vaginal discharges, cervical erosions, displacement of uterus and tears of the perineum. About slightly less than half of the number of cases attended are found to be normal.

Home Visiting

127. The number of home visits made by health nurses should be more than the number actually made but due to shortage of nursing staff, this part of the service had to be curtailed. Home visiting is an important part of the health services as the staff can teach the mothers to bring up their children in their homes environment. They can also check to see whether mothers carry out the advice given to them.

Cases seen by nurses	...	...	67,470
Homes visited by nurses	...	...	35,247

128. The cases that are visited by health nurses are:—

- (1) Puerperal mothers and neo-natal infants.
- (2) Infants and children who do not attend clinics regularly.
- (3) Infants and children who fail to come for the second dose of diphtheria immunisation.
- (4) Infants who are not vaccinated by six months of age.
- (5) Ante-natal cases who do not attend regularly.
- (6) Adopted children.
- (7) Cases discharged from hospital.

Infant Health and Pre-school Clinic

129. Mothers are advised to bring their babies from six weeks old regularly at least once a month for supervision to see that the babies are developing normally and that they are fed properly.

130. The chief aim of these clinics is educational and preventive but minor ailments are also treated due in part to a lack of Government out-patient clinics in the rural areas and because the mothers are too poor to afford the services of the private practitioners who are in any case in the City area. The common minor ailments are skin infections, coughs and colds, worm infestations, diarrhoeas, otorrhoeas congenital abnormalities (hare lip, cleft palate, talipes) and malnutrition due to unbalanced diet. Severe cases are referred for hospitalisation. It is difficult to have a clinic session purely for pre-school children as most mothers have not the time to bring a small infant in the

morning and then go home and bring an older child for the pre-school clinic. It is easier to bring two or three children at the same time. There is a tendency only to attend when the child is ill and requires treatment.

131. For the physical and mental development of pre-school children free nursery schools are essential. Singapore at present has only two day nurseries run by the Social Welfare Department in the City area. It is hoped that day nurseries may be set up in the near future. The private kindergarten schools are too expensive for the rural children.

132. The following figures show a remarkable increase in total attendances in all categories:—

	1955	1954
Number of clinic sessions held ...	3,869	2,945
Ante-natal cases ...	11,837	11,505
Total attendances ante-natal cases ...	50,479	39,000
Post-natal cases ...	4,053	3,552
Total attendances post-natal cases ...	6,540	5,469
Infants under one year ...	14,286	14,330
Total attendances infants under one year ...	111,473	94,180
Pre-school children ...	5,903	6,173
Total attendances pre-school children ...	61,206	46,249

Dental Care

133. There are now two dental officers attached to the Maternity and Child Health Section looking after the dental condition of ante-natal and post-natal mothers and pre-school children. This service is essential as good dental conditions will promote the general health of the mothers and children. A third dental officer will be stationed at Kampong Batak Clinic for the rural east in 1956.

PROPHYLAXIS AGAINST SMALL-POX, DIPHTHERIA, CONGENITAL SYPHILIS

Small-pox vaccination

134. Mothers are advised to have their babies vaccinated at three to four months and it is compulsory for them to be vaccinated by six months. Any baby can come to the various clinics for free vaccination.

	1955	1954
Primary vaccination ...	13,311	11,639

Diphtheria immunisation

135. One hundred and nineteen cases of diphtheria were reported in the rural areas. This figure is more than in previous years but it may not mean that the incidence of diphtheria has increased as the child population has increased. It may also be due to the fact that the people are more in favour of Western medicine now and bring their children with sore throat to see the doctor, thus resulting in increased notification of diphtheria cases. Every endeavour has been made to encourage mothers to bring their children from six months to school age to the various clinics for diphtheria immunisation. When cases of diphtheria are reported the health nurses are asked to visit the neighbourhood of the reported case and ask the contacts and children who have never been immunised to go to the nearest clinic for immunisation.

	1955	1954
New cases of diphtheria immunisation ...	11,519	24,516
Cases completing the two necessary doses at one month interval ...	9,182	19,400
Cases coming for the booster dose after 4 years ...	256	—

The figures were high for 1954 because there was a special anti-diphtheria campaign.

Routine Kahn and V.D.R.L. tests for ante-natal mothers

136. All ante-natal mothers who attend the clinic have their blood taken for Kahn and V.D.R.L. tests by the staff of the Social Hygiene Hospital. At certain centres notably Ulu Bedok and Yio Chu Kang, the ante-natal mothers are still opposed to this. It often takes much persuasion to get these mothers to consent to having the tests.

SOME ANCILLARY SERVICES

Medico-social Service

137. One almoner from the General Hospital has been stationed in the rural areas since the beginning of the year. Cases that need Social Welfare assistance were referred to him, thus saving the rural people time and transport fares in going to the Social Welfare Department headquarters in the City. The selling of babies, especially girls, is still carried out in the rural areas. However all these cases were reported to the Social Welfare Department.

Cases of adopted children investigated ... 240

Distribution of free Powdered Milk

138. Powdered milk was distributed to children and to ante-natal and post-natal mothers suffering from anæmias and malnutrition.

139. Breast feeding is advised for all infants but when there is contra-indication to breast feeding and when babies are older then powdered milk is given to those mothers who cannot afford to buy it.

The Family Planning Association

140. This is a voluntary organisation and holds clinics in some of the Maternity and Child Welfare premises. Mothers who wish to plan their families or on medical grounds are advised to attend these clinics.

Island-wide Health Week

141. An Island-wide Health Week was held from 21st to 26th November. Exhibitions of the work of Maternity and Child Welfare Services were held at—

Lee Rubber Factory at Nee Soon.

Pasir Panjang Social Centre.

Bukit Panjang Social Centre.

Siglap Social Centre.

Lim Ah Pin Social Centre.

Amoy Canning Factory at Bukit Timah.

142. Posters, pamphlets and exhibits teaching the public infant feeding, general hygiene and proper care were shown at these places. Baby shows were held at six Maternity and Child Welfare Centres. A total of 726 babies were registered but due to the bus strike 530 babies in the four age groups actually entered for the competitions. The Health Week was a great success, most babies were very healthy and it was difficult to single out the best from the competitors.

CHAPTER EIGHT

DISPENSARY SERVICE

143. The Government Health Division operates two static, two floating and three travelling dispensaries to meet minor medical requirements of the people in the rural area and in the small islands around Singapore. The mobile units have different routes and visit fixed places at definite times each day. They are in charge of hospital assistants supervised by two medical officers. One of the floating dispensaries usually carries a mobile maternity and child welfare team, consisting of a lady medical officer and a nurse, who hold ante-natal and infant welfare clinics on the various islands.

144. Rural areas lack medical facilities available in a City and these mobile units serve a real need of the rural dweller in providing medical requirements for over 90 per cent of their complaints and their popularity is evident from the increase in total attendances every year:—

<i>Year</i>				<i>Total Attendances</i>
1953	...	...	...	36,860
1954	...	...	...	49,588
1955	...	...	...	79,929

CHAPTER NINE

PORT HEALTH (AIR AND SEA) AND QUARANTINE

145. The Marine and Airport Health Services were amalgamated and brought under the control of the Senior Port Health Officer on 1st, December, 1954, facilitating the deployment of Health Officers for quarantine supervision.

146. Additional personnel have been recruited for both Services, the establishment at present being as follows:—

Port Health:

3 Health Officers	1 Clerk Interpreter
1 Sanitary Inspector	1 Clerk
1 Technical Subordinate	1 Office Boy

Airport Health:

1 Health Officer	1 Clerk Interpreter
3 Senior Hospital Assistants	1 Rat Catcher
1 Sanitary Inspector	1 Office Boy

Marine Port Health

147. Ships arriving from ports gazetted as infected in respect of major infectious disease are cleared at the Quarantine Anchorage. All passengers and crew including their health certificates, are examined by the Port Health Officer. Unberthed passengers if above 40 in number are sent to the Quarantine Station on St. John's Island, vaccinated and kept under observation for 48 hours.

148. Although our quarantine procedure is not provided for in the International Sanitary Regulations adopted by the World Health Organisation in June 1951 its continuance is considered justified by the geographical proximity of Singapore to infected areas.

149. 1,783 vessels from infected ports, with a total of 116,275 passengers, were inspected in 1955. The figures for 1954 were 1,587 vessels and 98,994 passengers.

150. No cases of major infectious disease were brought into the Colony during the year.

151. The clearance of small crafts from neighbouring islands is carried out at the Immigration East Wharf by the Sanitary Inspector attached to this office. The number of small craft and passengers inspected have increased considerably as shown by the following figures:—

	1955	1954
Number of craft	3,871	1,926
Number of passengers	22,324	12,836

152. There is always the possibility that timely information of any outbreak of quarantinable disease in any of the small neighbouring ports served by these small crafts may not be received. In view of this, the vigilant inspection of passengers is extremely important.

Pilgrim ships

153. 2,619 persons embarked at Singapore on pilgrimage to Jeddah during the year as against 1,537 persons in 1954. They were all in possession of the requisite certificates of revaccination against small-pox and inoculation against cholera and were medically examined before their departure.

Deratting of ships

154. In accordance with the International Sanitary Regulations, foreign trading ships with expired Deratization Certificates or Deratization Exemption Certificates were inspected for signs of rodent life. 399 ships examined of which 104 were fumigated and 295 issued with Deratization Exemption Certificates.

155. Fumigation with Hydrogen Cyanide is still being carried out by Messrs. Thomas Cowan & Co., Ltd., a private firm of operators licenced by the Director of Medical Services under the provisions of the Hydrogen Cyanide (Fumigation) Ordinance 1947.

156. Of a total of 1,192 destroyed rats, 191 were examined by the City Council Health Department. None was found infected with plague.

Vaccinations and inoculations

157. The Government Vaccination Centre, previously operating at North Canal Road Outdoor Dispensary, is now accommodated in more spacious and more suitable premises at Kadayanallur Street, off Maxwell Road.

158. Number of vaccinations and inoculations done at the Centre:—

Small-pox	...	...	10,157
Cholera	...	...	10,277
T.A.B.	...	...	52

159. 935 red-cover vaccination booklets were issued free of charge to Government employees.

160. 73 medical students of the University of Malaya attended vaccination course at the Centre during the year.

The Quarantine Station on St. John's Island

161. A Port Health Officer is in charge of the Quarantine Services. A part of the island is also used as the Opium Treatment Centre under the jurisdiction of the Commissioner of Prisons. For quarantine purposes there are 4 camps with a total capacity of 480 persons and 2 more camps which can be made available at short notice.

20,537 passengers were quarantined.

Airport

162. The new Singapore Airport at Paya Lebar was inaugurated in August 1955.

163. The posting of 3 Senior Hospital Assistants at the airport ensures that at least one of them will be on duty at the Airport Health Office at all times.

164. The clearance of aircraft is undertaken by the Airport Health Officer or by one of the Senior Hospital Assistants. In addition to his being available for any emergency the Airport Health Officer is, in conjunction with the Rural Health Branch also actively engaged in mosquito control work in the area surrounding the aerodrome.

CHAPTER TEN

THE ISLANDS

165. The inhabited islands off the coast of Singapore and administered by the Government fall into these defined groups:—

1. Western group including Pulau Seraya, Merlimau, Damar Laut, Merbau, Semulon, Pesek and Ayer Chawan.
2. (a) Eastern group (inner) including Pulau Brani, Blakang Mati, Sekijang Pelepah and St. John's.
(b) Eastern group (outer) including Pulau Seking, Semakau, Sudong, Pawai, Senang, Bukom Besar, Bukom Kechil and Sebarok.
3. Johore Straits group including Pulau Ubin, Tekong Besar and Tekong Kechil.

166. The islands in the Western group are a compact group situated off the mouth of Sungei Jurong and are surrounded by many sand banks and coral reefs. No jetties are provided at these islands and hence landing has to be done in a dinghy or shallow draft boat. Most of the population here consists of Malay fishermen, there being limited number of Chinese and Indian businessmen. The water supply problem in this group of islands is less acute than in the outer Eastern group. Pulau Merbau has a good and abundant well water supply. A Malay school at Pulau Seraya serves the needs of the children of this group of islands.

167. Most of the population of the Eastern Group (inner) are employees of the Straits Trading Company, the Marine Department and the Government Health Department. Blakang Mati is a military installation under H.M. Government except for a small portion of Crown land where civilians settle as petty traders.

168. Pulau Brani has a direct water supply from the City Water mains. St John's Island obtains fresh water from water boats.

169. Of the Eastern Group (outer), Pulau Bukom Besar and Pulau Sebarok are occupied by Petroleum Companies. Water and medical facilities on these two islands are provided by the respective companies. Most of the inhabitants of these islands are employees of the companies.

170. An acute water shortage is experienced on the smaller islands during dry spells. Two deep wells were constructed at Pulau Pawai in 1954 to relieve the water distress of the people of Pulau Sudong. Two anti-malarial wells were constructed at Pulau Sekijang and one was modified and repaired during the year. 250 yards of subsoil pipes and 20 yards of channel drains were constructed for this purpose. Two tube wells were constructed at Pulau Seraya and fitted with hand pumps. 100 yards of channel drains were constructed to serve as outlets. Two similar tube wells were also constructed at Pulau Semakau.

171. A large patch of low lying mangrove swamp at Pulau Bukom Kechil was reclaimed by this department at the request of the islanders the cost of reclamation being paid by the Rural Board. This measure also served to eradicate a suitable place for *A. Sundaicus* breeding. 666 yards of subsoil pipes were laid to drain the land, 306 yards of tidal bunds and 67 yards of 24" concrete flume were constructed.

172. Johore Straits group: Two of the largest islands—Pulau Tekong and Pulau Ubin in this group are considerably in advance with regard to economy, health and education as compared with the Southern Island groups. The population is over 6,000. Water supply is adequate.

Medical Facilities

173. The medical needs of the Western and Eastern groups are served by weekly visits of the floating dispensary in charge of a Senior Hospital Assistant. A maternity and child welfare team holds weekly session on these islands according to roster. There are resident Class 'C' midwives at Pulau Semulon, Seraya and Merlimau. Two resident Class 'B' midwives are stationed at Pulau Brani. These midwives also attend to confinements at Blakang Mati when necessary. A Government out-door dispensary under the charge of a Senior Hospital Assistant functions on Pulau Brani. There are Class 'C' midwives at Pulau Sudong, Semakau, Seking and Bukom Kechil. The floating dispensary also serves these islands at weekly intervals.

174. There is a cottage hospital with 6 beds at Pulau Tekong with a hospital assistant in charge and two resident midwives. Maternity and child welfare clinics are held weekly. A medical officer pays weekly visits to Pulau Tekong.

175. Malaria in all the islands is controlled by constructing permanent drains, oiling and residual spraying. Residual spraying was done twice a year in the following islands:—

1. Lazarus and St. John's.
2. Pulau Bukom Kechil.
3. Pulau Seking.
4. Pulau Semakau.
5. Pulau Sudong.
6. Pulau Seraya.
7. Pulau Semulon.
8. Pulau Damar Laut.
9. Pulau Ubin.

176. The islands are well provided with medical and public health facilities for the size of the population in scattered areas. A second floating dispensary was made available for these islands during the year.

CHAPTER ELEVEN

SCHOOL HEALTH

177. The School Health Service is centrally administered in Singapore on an all-Colony basis. At the end of 1955 there were 659 schools in the Colony, an increase of seventy-four schools over 1954. The school population increased from 184,148 in 1954 to 211,814.

<i>Schools</i>	<i>No.</i>	<i>Enrolment</i>
(a) Government English Teaching Schools (Morning and Afternoon)	120	56,732
(b) Government Aided English Schools (Morning and Afternoon)	50	28,872
(c) Private English Teaching Schools	69	11,054
(d) Malay Schools	63	11,595
(e) Government Aided Chinese Schools	217	87,268
(f) Private Chinese Schools	56	6,976
(g) Tamil Schools	18	1,258
(h) Miscellaneous Schools (including Religious, Commercial, Junior Technical, etc.)	66	8,059
Total ...	659	211,814

178. Excluding miscellaneous schools, 379 are located in the City of Singapore and 214 in the rural areas.

STAFF

179. At the end of 1955 the staff consisted of one Health Officer-in-charge Schools; ten Health Officers; one Tuberculosis and B.C.G. Officer; three Health Sisters; fifteen Health Nurses; and three Hospital Assistants.

180. Due to other commitments the full complement of medical officers was only available for five months during the year.

181. Owing to the shortage of health nurses, it became increasingly difficult during the course of the year to find sufficient staff for the school clinics, and to prepare schools for the health officers' visits. Accordingly a scheme for regular systematic visiting of schools by a team of school health nurses to carry out medical inspections, follow up cases for the health officers, act as liaison with the teaching staff and treat minor ailments had to be postponed.

ROUTINE MEDICAL EXAMINATIONS

182. Routine medical examinations of children were carried out in Government English and Government Aided Schools throughout the year. Routine examination of children in the private schools is not undertaken by the School Health Section.

183. It was decided at the beginning of the year to adopt the system followed by the School Health Services in the United Kingdom whereby routine examinations are carried out for certain age groups only, instead of every child in the school being examined, as had been done previously.

184. In the primary schools the age groups selected were $6\frac{1}{2}$ years to $8\frac{1}{2}$ years and 11 years to 14 years. Generally speaking these two groups are found in Primary I and Primary VI, and for the sake of conformity and convenience all pupils in the Primary I and Primary VI classes were examined as a routine. They have been classified as 'new entrants' and 'school leavers' respectively. In the secondary schools the pupils in Form V come into the 16+ group, and all pupils in this form were again examined as a routine and classified as 'school leavers'.

185. Children not falling within the selected age groups have been classified under 'others'.

186. Defectives found at previous examinations were re-examined to note progress or otherwise, and these have been classified as 're-examinations'.

187. Of a total of 470 Government English and Government Aided Schools, 413 schools were visited during the year as compared with 173 schools in 1954. The lady medical officers examined the girls in 274 schools and the health officers examined the boys in 332 schools. The total number of children examined was 63,424 which represents 35 per cent of the school population in Government and Government Aided Schools.

CLASSIFICATION OF EXAMINATIONS

			<i>Boys</i>	<i>Girls</i>	<i>Total</i>
New entrants	...	...	24,181	14,870	39,051
School leavers	...	...	7,760	2,855	10,615
Others	...	...	3,421	4,904	8,325
Re-examinations	...	...	870	4,563	5,433
Total	...	...	36,232	27,192	63,424

Review of General Health

188. It was the generally expressed view of the school health officers that improvement in the physical condition of the children continues slowly. This is particularly noticeable in those schools which have been visited regularly over the past few years. The incidence of poor nutrition was again found to be higher among the lower age group.

<i>Defect</i>			<i>Boys</i> <i>Per cent</i>	<i>Girls</i> <i>Per cent</i>
Dental caries	...	...	50.09	54.83
Skin infections	...	...	8.72	41.3
Eyes: Infections	}	...	2.26	1.5
Corneal opacity etc.				
Defective vision	...	...	3.09	3.6
E.N.T. infections				
Tonsils	...	...	4.16	0.93
Ears	...	...	0.45	0.19
Cardiac system Organic V.H.D.	...	...	0.16	1.46
Respiratory infections	...	...	2.17	10.87
Genito-urinary	...	...	2.13	0.14
Anæmia under 60 per cent Hb.	...	...	1.36	3.5
Worm infestations	...	...	6.42	28.63
Other abnormalities including orthopædic deformities	...	...	0.56	9.42

TREATMENT OF DEFECTS

Dental caries

189. Dental caries was still the most common defect and over 50 per cent of all children examined were suffering from caries of varying severity. Unfortunately little can be done at present to provide conservative treatment for more than a very small percentage of the children as the Dental Department has extremely limited facilities. In cases of acute gum infections and toothache the children were referred to the school dental clinic at Tan Tock Seng Hospital.

Skin infections

190. Fungus infections were the most common skin conditions found among the girls the highest incidence being among the Malays. Approximately 2 per cent of girls and 0.3 per cent boys were infected with scabies.

191. Thirteen cases of neuroderma were diagnosed of which six were girls and seven boys. These children were referred to the Hansen's disease skin clinic at Tan Tock Seng Hospital.

*Eyes**(a) Infection*

192. Conjunctivitis was the most common eye infection. Cases were referred to the school clinics and the majority of cases responded well. Intractable cases of conjunctivitis and 140 cases of trachoma were referred to the eye specialist for advice and further treatment.

(b) Defective vision

193. Defective vision was found more among the older children, 719 children had a slight defect V6/12 and 1,156 were severe V6/18 or more. Four hundred and thirty-four were sent to hospital for refractions and eighty-three children were recommended to the Ministry of Education for free glasses.

Ear, Nose and Throat

194. In most cases of enlarged tonsils, the children or parents were instructed with regard to conservative treatment. In cases where the general condition of the child was below average and the tonsils grossly enlarged and infected the child was referred to the E.N.T. specialist.

195. Infections of the middle ear were uncommon and only three cases of deafness were recorded.

Organic Valvular Heart Disease

196. The most common cases of congenital heart disease were ventricular septal defect and patent ductus arterious. Rheumatic hearts were the most common acquired defect though a history of a previous rheumatic infection was seldom reported.

Respiratory System

197. Infections of the upper respiratory tract were most common among children in the urban area. Children with a history of chronic coughs and poor physical development were sent for X-ray or screening and Mantoux tested.

Genito-Urinary

198. Among the boys, phimosis and inguinal hernia were the more common defects. Thirty-seven cases of umbilical hernia were recorded among the girls.

Anæmia

199. Of the children examined between 2 per cent and 3 per cent had a hæmoglobin of under 60 per cent. Worm infestation, particularly ankylostomiasis and poor nutrition appeared to be the main contributing causes.

Worm Infestation

200. The incidence of worm infestation was much higher among the children attending rural schools than those in the City area. Inadequate sanitation, the use of night-soil as garden manure and the fact that many of the children continue to go barefooted accounts for the higher incidence.

Other Abnormalities

201. Among the girls postural defects were the most common, this was attributed in many cases to unsuitable school furniture. There were thirty-two cases of cleft palate recorded and eighty-four cases of deformity of the chest.

Personal Hygiene

202. The general cleanliness of the children on the whole is improving but there is still a great need for the practical teaching of personal hygiene in the schools and the introduction of daily inspection by the teachers. In the Malay schools 70 per cent of the girls had pediculosis and 10.85 per cent of all girls were infected.

SCHOOL CLINICS

203. The School Health Service maintains one main school clinic which is open daily, and three subsidiary clinics in the outer urban and rural areas which function on certain afternoons only. The year's records show an overall increase during 1955 of 44 per cent in the number of children attending at the various clinics. The figures given below represent attendance at the general clinics and do not include attendance at the tuberculous or feeding clinics.

	1953	1954	1955
Total number of new cases ...	15,319	19,266	29,283
Total number of re-visits ...	22,438	29,148	40,804
	<hr/>	<hr/>	<hr/>
Total ...	37,757	48,418	70,087
	<hr/>	<hr/>	<hr/>

204. The school health officers each have regular morning and afternoon session for the main clinic so that they can follow up their own cases. In the subsidiary clinics, the health officers responsible for the schools in the area which the particular clinic serves are in attendance at each clinic session.

SCHOOL TRAVELLING DISPENSARY

205. Throughout the year the School Travelling Dispensary visited: (a) rural schools for medical inspections, treatment of minor ailments, follow-up cases referred by health officers, schools, and vaccinations, and (b) City schools to vaccinate children referred by the health officers. The staff attached to the dispensary comprises: two health nurses, one amah and one driver.

Their services are much appreciated by the schools in the rural areas and it was regretted that so much of their time was of necessity occupied in vaccinating children in the City area as no other members of the staff could be spared.

	1954	1955
Total number of visits to schools	400	675
Total number of treatment given	59,680	72,099
Total number of vaccinations	3,502	14,589

CASES REFERRED FROM SCHOOL CLINICS

206. One thousand two hundred and twenty-three cases were referred to specialists and 1,157 to various Institutions.

INFECTIOUS DISEASES

207. These were reported to the Health Officer-in-charge Schools by the City Health Officer, general practitioners, principals of schools or were discovered during visits of children to the clinics or by school nurses visiting homes of absent children.

INFECTIOUS DISEASES AMONG SCHOOL CHILDREN REPORTED DURING 1955

Chicken-pox	...	...	1,567
Mumps	...	...	588
Measles	...	...	335
Diphtheria	...	...	43
Whooping cough	...	...	35
Typhoid	...	...	3
Leprosy	...	...	13
Amæbic dysentery	...	...	2
Poliomyelitis	...	...	2

208. All school contacts of diphtheria cases were visited and throat swabs were taken. The class contacts of the two poliomyelitis cases were visited daily for twenty-one days.

Number of throat swabs taken in schools ... 2,409

HOME AND SCHOOL VISITING

209. The home visiting team consists of two health nurses and though primarily attached to the tuberculosis section, they also visit homes and schools in connection with infectious diseases. During 1955, a total of 2,754 visits were made to homes and schools.

210. The health officer-in-charge schools visited post-natal cases among Malay school teachers referred by the Education Department and a total of eleven examinations were made.

SOCIAL WELFARE

211. During the first half of the year the Social Welfare Department supplied skimmed milk to schools recommended by the school health service. Children who showed nutritional deficiencies were selected by the health officers during routine medical examinations.

212. In August the Social Welfare Department decided that a general survey of the scheme was necessary.

SCHOOL TUBERCULOSIS SECTION

213. The aim, as before, has been the detection of tuberculosis infection as early as possible not only in school children but in all those who come in contact with them either in the homes or in the schools.

214. All cases who had suspected or obvious lesions were given a preliminary investigation and referred to the Chest Physician for confirmation of diagnosis and treatment.

215. It is the policy of the Service to have all teachers X-rayed at regular intervals of twelve to eighteen months and all canteen workers annually. An arrangement has been made with the Ministry of Education for all new prospective teachers to fully Aided Chinese Schools to be X-rayed before they are appointed. A total of 2,682 teachers were X-rayed and 819 canteen workers and school servants.

X-rays

216. School children and school personnel were X-rayed at three centres:—

- (a) Tan Tock Seng Hospital;
- (b) Singapore Anti-Tuberculosis Association;
- (c) Woodbridge Hospital.

217. A grant of \$8,000 was allocated for 1955 by Tan Tock Seng Hospital for X-raying of school children at the Singapore Anti-Tuberculosis Association Clinic. These children were mainly class contacts. Four thousand nine hundred and twenty-one children were X-rayed at a cost of \$1.75 per head, the total amount expended being \$8,781.75.

<i>Centre</i>				<i>Total No. X-rayed</i>
Woodbridge Hospital	...	...	...	} 8,138
Tan Tock Seng Hospital	...	...	...
Singapore Anti-Tuberculosis Association Clinic			...	4,921
Total				13,059

The number of infective cases detected was 207 or just less than 1.6 per cent of all the cases X-rayed.

Clinics

218. Clinics were held at:—

- (a) North Canal Road;
- (b) Tan Tock Seng Hospital;
- (c) Paya Lebar.

219. The number of attendances at the clinics steadily increased throughout the year.

Feeding Scheme

220. With few exceptions, the results of the feeding scheme was good. There are many children still who need but cannot have this form of help due to lack of sufficient funds. The ration will be revised in 1956 following the advice of Dr. Jean Millis of the University of Malaya.

B.C.G. Campaign

221. The B.C.G. campaign initiated by the World Health Organisation in 1951 has been continued on the same lines as before.

The table below shows the number of schools where B.C.G. vaccination were carried out in 1954 and 1955:—

<i>Year</i>		<i>English</i>	<i>Chinese</i>	<i>Malay</i>	<i>Indian</i>	<i>Private</i>	<i>Total</i>
1954	...	19	27	8	4	5	63
1955	...	23	43	5	5	—	76

222. The table below shows the actual number of Mantoux tests and B.C.G. vaccinations carried out:—

<i>1st Tests</i>	...	10 T.U. Mantoux	9,221;	B.C.G. vaccination	3,274
<i>Retests</i>	...	10 T.U. Mantoux	2,932;	B.C.G. vaccination	919

223. Of the 2,932 children retested with ten T.U. after B.C.G. vaccination, 2,002 showed a positive reaction giving a conversion rate of 70.6 per cent.

224. There has been no complications following B.C.G. vaccination except an occasional B.C.G. sore or transitory regional lymphadenopathy. The frequency of keloid formation still remains high.

School Transport

225. Transport attached to the School Section consists of:—

- (a) one Morris school travelling dispensary;
- (b) one Standard Vanguard Utility Van used by the B.C.G. team;
- (c) one Commer Bus for transporting school children and staff.

School Environmental Hygiene

226. There was further improvement in the field of Environmental Hygiene and Sanitation of Schools during 1955. Many new school buildings were constructed with due regard to health, hygiene and many of the old buildings were renovated to improve existing sanitary conditions.

227. Regular inspections of school premises were made by the Health Officer-in-charge Schools and the School Sanitary Inspector. Four hundred and eighty-one inspections were made, 184 reports were sent to the Department of Education, six reports to the City Council and three to the Rural Board.

School Buildings

228. During the year sixty plans were submitted for advice and recommendations and all plans were approved subject to amendments. Twenty-nine plans were for the construction of new schools and twenty-six for alterations and additions to existing buildings and five were for the conversion of dwellings into schools.

229. The Health Officer-in-charge Schools was asked by the Ministry of Education to inspect thirty-four buildings prior to their registration as private schools. Of these, twenty-one were approved subject to structural alterations and thirteen were rejected as being unsuitable.

Sanitation

230. Generally speaking there is a slow but steady improvement in the sanitation of the schools as more and more are adopting modern sanitation and where City Council sewage is not available are installing septic tanks. The smaller schools in the remote rural areas still present a problem and in those areas which are outside the jurisdiction of the Cleansing Section, night-soil is removed only once or twice a week.

231. There is, however, a great need for the education of children in the correct use of latrines by the teaching staff of the schools.

Tiffin Sheds

232. There is still inadequate supervision of tiffin sheds and even in the Government English Schools were found to be far from satisfactory. In many of the new schools there are insufficient sinks provided.

Overcrowding

233. There was still overcrowding in some of the schools visited more particularly in the Chinese and private schools. Where found, the matter was reported to the Ministry of Education for necessary action. During the year 267 accommodation certificates were issued.

Buildings

234. In March the administration and offices of the School Health Section were moved from Palmer Road to Maxwell Road. The move has proved an advantage from the point of view of better office accommodation for the staff and increased storage space.

CHAPTER TWELVE

DENTAL HEALTH

235. The Dental Section was expanded by about one third in 1955. Its establishment of dental officers was increased from 12 to 16 in the 1955 Estimates, and subsequently permission was obtained to engage five more officers. The total establishment of the Section was raised from 92 to 122 and nearly all these posts were filled during the year.

236. It was possible, with the gradual increase in strength, to take a broader view of the responsibilities of the Government in respect of the dental health of the population. The public dental service, still comparatively young, had hitherto been compelled to concentrate on providing such clinical treatment for various classes of the community as could be given. It now became possible however to enter the field of preventive dentistry, albeit in a very small way.

237. The work of the Dental Section can be divided as follows:—

Clinical Dentistry:

Schools Division;

Hospitals Division;

Maternity and Child Welfare Division;

Certain miscellaneous appointments.

Preventive Dentistry:

Fluoridation of the water supply, and the dental surveys carried out in relation to this;

Dental Health Education.

CLINICAL DENTISTRY

Schools Division

238. From the inception of the service it has been recognised that primary consideration should be given to the treatment of children, since dental disease is a continuing process, without remission or repair, and therefore it is least expensive to treat it as early as possible in the life-time of the individual. It is also considered that dental treatment for young persons, combined with advice and instruction, is likely to be of more educative value than offering a similar service to older persons. The principal method of caring for the dental health of the young is through the systematic examination and treatment of school-children, and in this the Department of Education has been most co-operative, an attitude which is greatly appreciated. It is considered that a child who is dentally fit is likely to make better progress in his studies than one who is not, but it is often necessary to devote many hours to achieving and maintaining dental health, and the value of this is not always immediately apparent to school teachers, who, unless suitably enlightened, may be inclined to grudge the time otherwise available for classes.

239. It is unfortunate that the centre for school dental treatment is still housed most unsuitably in a ward of Tan Tock Seng Hospital. Plans were made in 1955 to transfer this centre to more suitable premises in a Health Department building due for erection in Pegu Road. It is hoped that this will eventually be one of at least five such centres, and that each centre will be surrounded by a group of schools in which dental nurses provide treatment on the premises. It is intended to establish a second such centre, occupying one floor of the Urban Health Centre now being built in Outram Road. Equipment for this establishment, generously donated by U.N.I.C.E.F., has arrived in Singapore, and it was hoped at one time that the centre would be open and functioning in 1955, with a staff of five dental officers. However, progress was not as rapid as was expected.

240. Three dental nurses continued their work in school clinics. Two others completed their training in Penang and returned to Singapore in June. It was proposed to erect a clinic in the grounds of St. Andrew's School, where these nurses could work, for it has been found that, with morning and afternoon schools both working in the same building, at least two dental nurses are required to operate in each school premises. The proposed clinic was unfortunately not even begun by the end of 1955, and the two nurses were therefore temporarily engaged at the school centre instead. There was provision in the Estimates for four more probationers to be sent to Penang but unfortunately no suitable applicants presented themselves. It is clear that the Dental Nurse service should either be expanded considerably, and suitably publicized in order to attract candidates of good quality, or else the scheme should be abandoned completely. At present its development is in abeyance while staffing policy is under reconsideration.

241. The mobile Dental Clinic had its first full year of operation. It proved to be most successful and as a result the construction of a second vehicle was begun during the year. It is not easy to assess the value of mobile clinics in an area as small as Singapore, where transport facilities on the whole are good. The clinic visits schools in outlying parts of the island, that is, it goes to one school every Monday in term time, another school every Tuesday, and so on. When it is realised that each school is really two schools, morning and afternoon, it will be seen that very little time is really available for dental treatment: the staff of the mobile clinic, which consists of a dental officer and a dental nurse, can provide only about 100 hours of treatment per annum in each morning school and 70 hours per annum in each afternoon school. The incidence of caries is high, and this means that it is barely possible to complete the treatment of one class in each school each year, and there are commonly two, or three, or more parallel primary classes in each school. In other words it is not always possible even to provide treatment for all the children during their first year in school. By contrast, a static school dental centre undertakes the full care of a limited number of schools, and thus is able to give complete treatment to all the children shortly after entry and then to re-treat them when necessary in each of the six years spent in the primary department, and in some cases throughout secondary school days too. Although they cannot do this, mobile dental clinics are held to be of considerable value because even if they can only provide complete treatment once, and that for only a small number of youngsters, this may be the means of putting them on the right path, and arousing interest in the care of their own teeth. Moreover mobile clinics are of considerable value in annual surveys, and also have a certain publicity value which should not be overlooked.

242. Following arrangements previously made, a dental officer visited Christmas Island to treat schoolchildren in April, May and June. Another visit should have been made later in the year but unfortunately, owing to lack of accommodation available for the dental officer, this trip had to be cancelled. It is hoped that six-monthly visits will be resumed very shortly.

243. An entirely new departure during the year was the establishment of a dental clinic in the Community Centre at Sims Avenue. A surgery and waiting room were incorporated in this new building by the Social Welfare Department without previous consultation; this accommodation however was found to be well planned, and was gratefully accepted and put into use. One dental officer is on full-time duty here. Each community centre caters for about 200 children who are unable to obtain places in schools near their homes. The work in the centre therefore supplements to some extent that of the Schools Division, and for this reason reference is included here. It is intended that the dental officer, after rendering the children at the centre dentally fit, should deal with children from four other centres, and the Social Welfare Department has agreed to be responsible for transporting these children for treatment. A certain measure of compulsion is necessary to provide full and systematic dental treatment for children, and this is rather less easily exercised in a community centre than at a school, but the clinic is nevertheless working fairly well.

Hospitals Division

244. Much the largest part of this division is the Dental Clinic at the General Hospital. The Head of the Department of Dentistry of the University Professor R. J. S. Tickle, D.D.S., L.D.S., R.C.D.S., M.Sc. (Dental), reports on its work as follows:—

(i) The Dental Clinic is the teaching section of the Department of Dentistry of the Faculty of Medicine, University of Malaya, and this report should be read in conjunction with the Annual Report of the University of Malaya.

Staff

(ii) Certain staff changes occurred during the year, and the Government staff at the Dental Clinic at present numbers 12, consisting of 7 Dental Officers and 5 Housemen. The University staff also assist in the treatment of patients.

General

(iii) There has again been a remarkable increase in the number of out-patients. The increase in new cases was 6,370 or an approximate 30 per cent gain, and for out-patients 18,638 or an approximate 29.5 per cent increase over 1954. The daily average has increased from 231.2 in 1954 to 278.7. These figures were achieved through the organized efforts of an efficient and hard-working staff. The extension to the Dental Clinic was completed early in the year, and provided increased working space. Three main units were organized—Conservative Dentistry, Oral Surgery, and Prosthetic Dentistry. Various structural alterations to the existing building resulted in, amongst other things, a more efficient Radiology Department.

(iv) The request for treatment continues to be exceptionally heavy with, in certain cases, long waiting lists. This demand we believe to be in part due to the greater acceptance by the public of Western dentistry, to the standard of work available at the Dental Clinic, General Hospital, and to the fact that patients can obtain emergency or free treatment when necessary.

(v) As usual, the demand for the relief of pain was high and this accounts for the increase in the number of teeth extracted in both children and adults. There was a very sharp rise in the number of children presenting for treatment, the figure increasing from 21,087 to 31,237. This is largely the result of a directive from Government that treatment for children up to school leaving age should be free, whereas in the past they were obliged to pay for the cost of materials if they could afford to do so.

(vi) Preventive and conservative treatment is largely done by students as a part of their teaching requirements and the total accomplished is much the same as in 1954. For a period of several months, whilst an extension was being added to the Dental Clinic, a large part of the Conservative Clinic could not be used.

(vii) No further progress was made towards the establishment of a Dental Ward, which it is now hoped will be completed in 1956 in the former F.O.P.D. The establishment of such a ward will result in increased efficiency in the treatment of patients and be invaluable from the teaching point of view.

(viii) Excellent co-operation was received from the various medical and surgical units in the Hospital.

Revenue

(ix) The general policy is free treatment when patients are unable to pay. In other cases patients eligible for treatment pay for the cost of materials. There has been a marked decrease in revenue this year from \$53,842.84 in 1954 to \$34,738.85, as a result of all children up to school leaving age now receiving free treatment, and the sharp increase in numbers. This decrease of revenue was foreseen and brought to the notice of Government at the time of this ruling.

(x) In all, 1955 must be considered a very satisfactory year and it is anticipated that the output in 1956 will be much the same.

245. It was laid down at the end of 1954 that attachment of Government staff to this establishment should be secondary to Government's other dental commitments, particularly those in respect of mothers and children.

246. An important new appointment was made in this division in February when a Dental Officer, Chronic Sick, took up his duties. This officer divides his time between Trafalgar Home, Woodbridge Hospital and Tan Tock Seng Hospital. At Trafalgar Home and Tan Tock Seng Hospital the surgery accommodation is of a temporary nature, but plans are in hand for permanent clinics at both these establishments. At Trafalgar Home the dental officer carries out systematic treatment of all patients who are willing to accept it. There are considerable arrears of work here as most of the patients have suffered dental neglect for many years. At Woodbridge Hospital two objects are in view, to provide full treatment for such patients as are amenable to this, and to eliminate sepsis as far as possible in other cases. Dental treatment, by helping to restore the patient's interest and pride in his appearance, is often of psychological value also in the treatment of mental disorders. At Tan Tock Seng Hospital the number of long-term patients is very limited but it is expected that with the addition of new wards this number will shortly be increased. It will not be long before full-time dental officers are required at all these institutions concerned.

247. During the year treatment was regularly given to the children at the Red Cross Handicapped Children's Home, and also such treatment as was possible in the rather difficult circumstances to the child patients at St. Andrew's Orthopaedic Hospital at Siglap.

Maternity and Child Health Division

248. Dental officers continued their treatment of expectant and nursing mothers and pre-school children at Bukit Timah and Mandai. In these centres, assistance is given in the work of the health officers by eliminating dental sepsis from the mouths of their patients, but this is not all. In addition, as many mothers as possible are given the equivalent of private dental practice, i.e. fillings, extractions and oral prophylaxis are carried out, and dentures are to be provided as soon as the dental technicians are sufficiently trained. The opportunity is also taken to instruct mothers in the value of dental care, and to encourage them to bring their younger children for treatment. This is

the only means by which pre-school children can be obtained for regular dental attention. A branch clinic was opened during the year at Yio Chu Kang and the dental officer from Mandai attended there for two days a week. Equipment is relatively simple, but some useful work is being done. Plans were made to extend the service into the eastern part of the island, and also to the Maternity and Child Health Centre in Prinsep Street, now under the control of the City Council. The largest ante-natal clinic in Singapore is at Kandang Kerbau Maternity Hospital and for this reason the possibility of setting up a dental clinic in the hospital was investigated during the year, and this clinic is expected to materialize in the near future.

Miscellaneous appointments

249. Dental treatment of the police continued at the clinic in headquarters at South Bridge Road. The dental officer also made weekly visits to the Prison at Changi. A dental officer visited the Royal Malayan Naval Barracks three days each week to give systematic treatment to the ratings.

250. An important development took place at the beginning of the year, when the Dental Section acquired one floor of the old St. Andrew's Mission Hospital building in Maxwell Road. For the first time a headquarters was established for the control of the scattered elements providing public dental services in Singapore. This headquarters comprises the office of the Chief Dental Officer, a central store, a prosthetic laboratory, and certain other centralized services such as a workshop for the maintenance and repair of equipment and a sewing room. The equipping of the laboratory was completed in July, and six new probationary technicians were engaged, and began a three-year course of training. It is expected that these technicians will shortly be able to undertake the construction of dentures for various sections of the public who are receiving treatment in dental clinics. From this centre a station wagon goes out on regular rounds of the clinics delivering stores and linen, and collecting and distributing laundry.

PREVENTIVE DENTISTRY

Fluoridation of the water supply, and the dental surveys carried out in relation to this

251. During the year a good deal of attention was given to this subject. By far the most important development—indeed the greatest advance in the Colonial service—was the water fluoridation project. It had been hoped that by the end of the year the whole water supply of Singapore would be fluoridated, but this was not to be. During the year, however, the first of the four feeders required was ordered by the City Water Department. This was expected to arrive towards the end of the year, providing fluoridation of the water supply mainly in the City area. The intention was to test this plant out, and, provided it proves satisfactory, to order the other three plants at once, so that the entire water supply of the island could be fluoridated by the end of the following year.

252. In connection with this development, the first annual dental survey ever undertaken in Singapore was carried out in February, March and June. Dental examinations of school-children took place in 35 schools in Singapore and also, as a control measure, in 9 schools in Malacca. This was a fairly extensive undertaking requiring the services of three dental officers and other staff for a total period of 9 weeks, but the results are considered to be of great value. The results of the survey are given in the Table appended. The figures will later be transferred to punch cards and tabulated and analysed

in more detail. It was intended at first that suitable groups of six and eight-year-old children should be used for the survey, but it was found that insufficient numbers of six-year-olds were entering school, and a switch was made to seven and eight-year-olds instead.

253. Many authorities were consulted before the fluoridation proposal was adopted and members of the University staff and of the Government Department of Chemistry and officers of the City Council were all engaged in discussion. Invaluable statistical assistance was provided by Dr. Enid Charles, F.R.S.E., who was then a W.H.O. visiting lecturer at the Department of Social Medicine of the University and grateful acknowledgment is made of the services she rendered.

Dental Health Education

254. Developments also occurred in this field. Opinion is divided as to the relative value of the various means by which this education can be given. In general it is considered that the best potential educator is the dental officer, giving treatment as he does, both for the relief of pain and as a systematic preventive measure. It is not sufficient however to rely on him alone, and other means of influence were contrived during the year. Material was prepared for a series of broadcasts included in the Schools Programme of Radio Malaya. This of course reaches the Federation as well as Singapore, and the medical authorities of both territories were pleased to give their approval. Pamphlets giving advice on dental health were prepared, in four languages, with the assistance of the Public Relations Officer, and distribution of these was begun. The Dental Section took part in the health exhibitions, both central and regional, which were held in November. Since there is a chronic shortage of operative staff, dental health education is mainly directed towards instructing the public how best to care for their own teeth rather than emphasizing the undoubted value of regular visits to the dentist.

255. During the year, one dental officer continued to officiate as Inspecting Officer to the Dental Board. He reports as follows:—

(i) During 1955 there was a slight increase in the number of dentists registered in Division I of the Register and a slight fall in the number of dentists in Division II.

	<i>Beginning of 1955</i>	<i>End of 1955</i>
Number of qualified dentists (Division I) ...	67	73
Number of unqualified dentists (Division II) ...	265	251
	<u>332</u>	<u>324</u>

The total number of registered dentists actually practising in the Colony remained constant throughout the year, at 322.

	<i>Beginning of 1955</i>	<i>End of 1955</i>
Number of Division I dentists ...	64	71
Number of Division II dentists ...	258	251
Total number of registered dentists ...	<u>322</u>	<u>322</u>

(ii) All the dentists registered in Division II were engaged in private practice but less than half the Division I dentists were private practitioners, as is shown in the following table:—

Private Practice ...	...	...	...	33
Government Service ...	...	...	...	30
University of Malaya ...	...	...	...	10
			Total ...	<u>73</u>

(iii) The number of routine inspections carried out during 1955 at the premises of dentists registered under section 5 (1) (*d*) and (*e*) was 627. Warning notices were issued to 29 dentists regarding cleaning and renovation of premises or alterations to signboards.

(iv) Warning notices were also issued to five dentists in regard to covering. In one case, in which a registered Division II dentist was found to be covering his dental technician, legal action by the police is pending.

Towards the end of the year two itinerant unregistered dentists were prosecuted and fined.

(v) During the year over 100 inspections were carried out in connection with the enforcement of the Dental Board ruling on the exhibition of signs. This ruling by the Board formed one of the subjects on which representations were made by the Singapore Chinese Dentists Association to the Chief Minister in August and September.

(vi) The conditions under which Division II dentists are carrying out their practice vary greatly, according to the means and circumstances of the individual dentists, who in the main are uneducated as well as unqualified. In the course of inspections many questions of a professional nature are asked by these dentists. This provides an opportunity to exert influence towards a gradual improvement. There has indeed been a general improvement in premises and equipment over the last few years, and this trend should continue with proper guidance."

256. During the year Dr. R. V. Bradlaw, C.B.E., Professor of Oral Pathology at the University of Durham, and W.H.O. Consultant on Dental Health, visited Singapore and inspected the dental services, and gave his advice, in particular on the question of employment of dental nurses. Dr. John W. Knutson, Assistant Surgeon-General and Chief Dental Officer of the United States Public Health Service, visited the Colony in November, in the role of an observer, also under the aegis of W.H.O. Both these eminent visitors expressed their commendation of the service.

257. Chief Dental Officer, Mr. N. H. Gittins, F.D.S., R.C.S. (Eng.).

258. A detailed table of returns for the year is appended.

DENTAL SURVEY—SINGAPORE AND MALACCA, 1955

Age Group	Ethnic Group	Number exa- mined	AVERAGE AGE		DECIDUOUS TEETH			PERM. TEETH		Average def DMF	Enamel Opacity	Peren- tage
			Years	Months	df	Pre- sumed extracted	Average def per child	DMF	Average per child			
SINGAPORE	7 years- 7 years 11 months	241	7	6	2,563	319	12.0	868	3.6	15.6	37	15.5
			7	5	4,210	931	12.1	1,797	4.2	16.3	74	17.4
	8 years- 8 years 11 months	239	8	5	1,933	318	9.4	934	3.9	13.3	31	13.0
			8	6	1,789	745	9.4	1,406	5.2	14.5	50	18.5
MALACCA	7 years- 7 years 11 months	261	7	7	2,057	142	10.2	456	2.1	12.3	18	8.3
			7	6	2,003	398	11.2	865	4.0	15.3	41	19.1
	8 years- 8 years 11 months	235	8	6	1,818	202	8.6	588	2.5	11.1	36	15.3
			8	5	1,988	701	9.5	1,432	5.0	14.5	48	16.9

N.B.—All subjects were born and have been continuously resident in Singapore or Malacca as the case may be.
No distinction has been made in respect of drinking water supply—whether pipe water, well water, rain water or other source.
All cases of enamel opacity were entered as the idiopathic type.

	New Cases	Total Attendances	FILLINGS			Extract	Scaling	Dressing	Dentures Fitted	X-ray Films	Treatment Completed
			Amal.	Silicate	Others						
SCHOOLS DIVISION:											
School Dental Centre, T.T.S.H.	2,480	21,331	13,115	3,000	20	13,055*	892	4,981	..	..	954
Dental Nurses Clinics ..	353	5,622	5,456	55	70	1,584	1,177	1,121	..	..	511
Mobile Dental Clinic ..	399	3,033	2,341	138	95	1,757	96	934	..	..	147
Sims Avenue Community Centre ..	338	4,137	911	23	..	1,236	25	576	..	..	20
HOSPITALS DIVISION:											
Dental Clinic, General Hospital	27,895	82,107	4,277	423	1,340	84,239	664	52,201	1,873	6,761	304
Dental Officer, Chronic Sick	863	4,628	1,315	218	264	2,795	332	188	..	..	307
St. Andrew's Orthopaedic Hospital	..	48	..	..	24	3	..	100	..	..	..
MATERNITY AND CHILD WELFARE DIVISION:											
Bukit Timah ..	1,799	4,716	925	221	3	5,045	394	873	..	..	134
Mandai and Yio Chu Kang ..	1,534	4,683	953	104	152	4,966	280	149	..	..	85
MISCELLANEOUS:											
Police ..	434	2,455	1,368	182	436	427	505	152	..	..	362
Royal Malaysian Navy ..	169	..	562	187	..	161	63	203	..	..	83
Total ..	36,264	132,760	31,223	4,551	2,404	115,268	4,428	61,478	1,873	6,761	2,907
					38,178						
* Including ninety for hospital patients											

* Including ninety for hospital patients.

CHAPTER THIRTEEN

HEALTH EDUCATION

259. Singapore is one of the few countries in Asia which have realised the potentialities and contribution which Health Education can make to better the health conditions and conserve the maximum health of the people. A separate Health Education Section has been created in the Ministry of Health.

260. Health Education is the key to effective community action for improved health. Formulation of health principles, establishment of health laws and regulations and provisions of protective measures for health though indispensable will not alone bring about lasting improvement in the health of the people. These basic procedures must be augmented by active programmes of education in schools, kampongs and communities that seek to bring about intelligent participation of children and adults in steps for the betterment of their own health and for the improvement of the health of the community.

261. The work carried out in Health Education in Singapore for the year 1955 may be conveniently grouped under the following headings:—

Preparation of Health Education Materials

262. *Pamphlets.*—About 10 pamphlets on poliomyelitis, chicken-pox, venereal diseases, flies, maternity and child care, Government Health Department, tuberculosis, hookworm, cancer and dental care were completed. About 100,000 pamphlets were distributed for the diphtheria immunisation campaign, health week and World Health Day.

263. *Posters.*—More than 700 posters on 'Health Week' and others were prepared in connection with the Health Week.

264. *Radioscripts.*—Two radioscripts on water supplies in the rural areas and World Health Day were prepared and sent to Radio Malaya for broadcasting in English and vernacular languages.

265. *Photographs.*—About 500 photographs showing the activities of the Medical Department were taken for exhibition at different places.

266. *Film.*—A 16 m.m. silent movie film on Maternity and Child Health has been completed.

Teaching

267. The Health Education Officer gave lectures and demonstrations to:—

- (1) Students attending the Royal Society of Health Course;
- (2) Teachers at Teachers Training College;
- (3) Children attending Social Welfare Centres;
- (4) Students for the Diploma in Public Health at the University of Malaya.

Altogether the Health Education Officer gave more than 150 lectures on Health Education and Hygiene to various groups like teachers, sanitary inspectors, nurses, students and others.



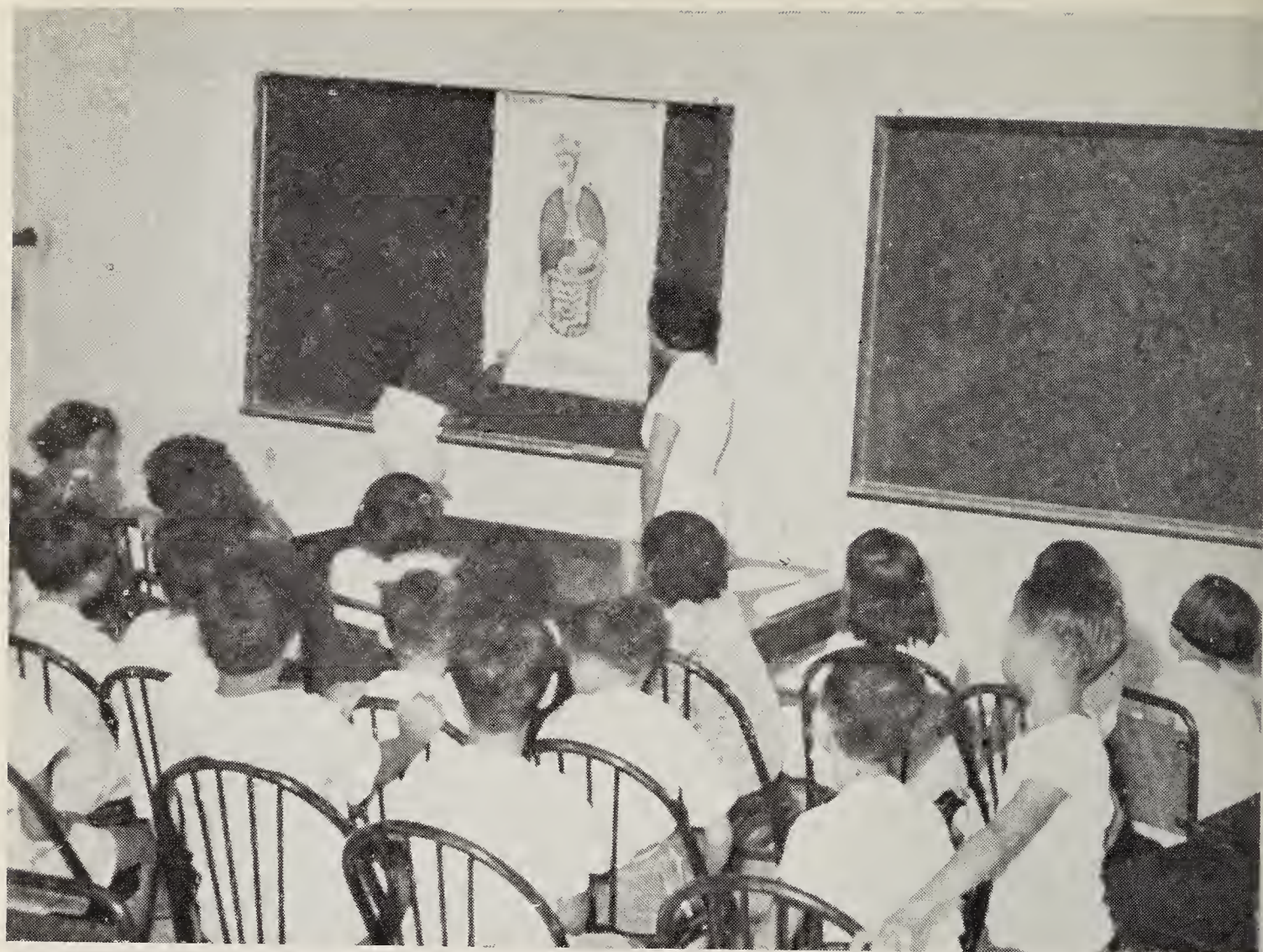
D.I.S.

Island-wide Health Week Exhibition



D.I.S.

Lady Black presenting prizes at the Health Week Baby Show



Health Education Office

Health Education Sister teaching Hygiene to children in a Community Centre



Health Education Office

A Sanitary Inspector teaching kampong people how to build a sanitary latrine

Kampong Health Education Programme

268. Health films were shown and lectures given in 30 kampongs. More than 25,000 have attended these film shows and lectures. A Health Education Course for kampong leaders was started. It was opened by the Honourable the Minister for Health and it was well attended.

Training of Staff in methods and techniques of Health Education

269. In-service training courses in Health Education have been planned and organised for 30 teachers and senior staff members of the Social Welfare Department.

270. The Health Education Sister appointed was given intensive training in methods and techniques of Health Education.

Films and filmstrip shows

271. About 80 Health films and filmstrip shows have been arranged in the rural areas and elsewhere. Altogether it is estimated that more than 30,000 people have attended the film shows.

Health Exhibition

272. Eleven health exhibitions were arranged for the year in connection with World Health Day, Island Wide Health Week exhibition, various Government Departments and Voluntary Agencies participated. Materials like models, photographs, charts and posters were exhibited at the exhibitions. About 80,000 pamphlets have been distributed during the exhibitions. It is estimated that 50,000 people have seen the exhibitions.

Health Education Council

273. The draft constitution of the Council has been approved by Government. It is expected that the Council will be established early in 1956.

*Specific Health Education Projects**Island Wide Health Week*

274. For the first time in Singapore an Island Wide Health Week was held during the period 21st to 26th November, 1955. The events for the Health Week were:—

- (1) Central exhibition at the Happy World Stadium and Regional exhibitions at Nee Soon, Pasir Panjang, Bukit Timah, Siglap, Bukit Panjang and Serangoon;
- (2) Baby shows at Mandai, Holland Road, Changi Point, Kampong Batak, Pasir Panjang, Joo Chiat, Prinsep Street and Bukit Panjang and a championship baby show at the Happy World Stadium;
- (3) Health Poster and Essay competitions in all Colony schools;
- (4) Film shows and lectures.

About 35 Voluntary Agencies participated in erecting 33 stalls. The stalls were manned by Volunteers from the Civil Defence Department.

275. The Central Exhibition at the Happy World Stadium was opened by Mrs. R. H. Bland at 5.30 p.m. on November 21st. Mrs. A. J. Braga distributed prizes to the winners of the Health essay and poster competitions. About 15,000 people have seen the central exhibition.

276. The Regional exhibitions were opened simultaneously and about 20,000 people have seen these exhibitions.

277. About 815 babies competed for the District baby shows and 33 babies for the final baby show. Prizes for the final baby show were distributed on 26th November by Lady Black who was introduced by the Honourable the Minister for Health, Mr. A. J. Braga.

278. More than 1,500 entries were submitted for the Health Poster and essay competitions in schools. 74 prizes were awarded. The competitions were very popular and the standard of work was very high.

279. Film shows and tape recorded lectures were arranged in all the exhibition centres and were well attended.

280. During the whole week, Public Health Experts broadcasted through Radio Malaya lectures on different aspects of the Health of the people of Singapore. On the whole more than 35,000 people attended the various events connected with the Health Week which was considered as a great success in educating the people of Singapore with regard to their personal health and the health of the community at large.

Observation of World Health Day

281. Three exhibitions were organised at Serangoon, Bukit Timah, and Pasir Panjang in connection with the observance of World Health Day on April 7th, 1955. The theme chosen for the year was 'clean water means better health'. About 2,000 people have seen the exhibitions.

282. Health films were shown during the week at different places in the rural areas. Radio Malaya broadcasted a full programme about World Health Day. Newspapers published articles about the World Health Organisation and observation of World Health Day. Pamphlets, posters and booklets depicting the activities of the World Health Organisation were distributed.

Health Education programme in Community Centres

283. Health Education programmes in Siglap and Serangoon Community Centres have been intensified. More film shows and lectures have been arranged besides teaching children simple lessons on Hygiene. Women attending the Women's Section of Siglap Community Centre have also been given simple lessons on Hygiene.

Community Organisation for Health Education

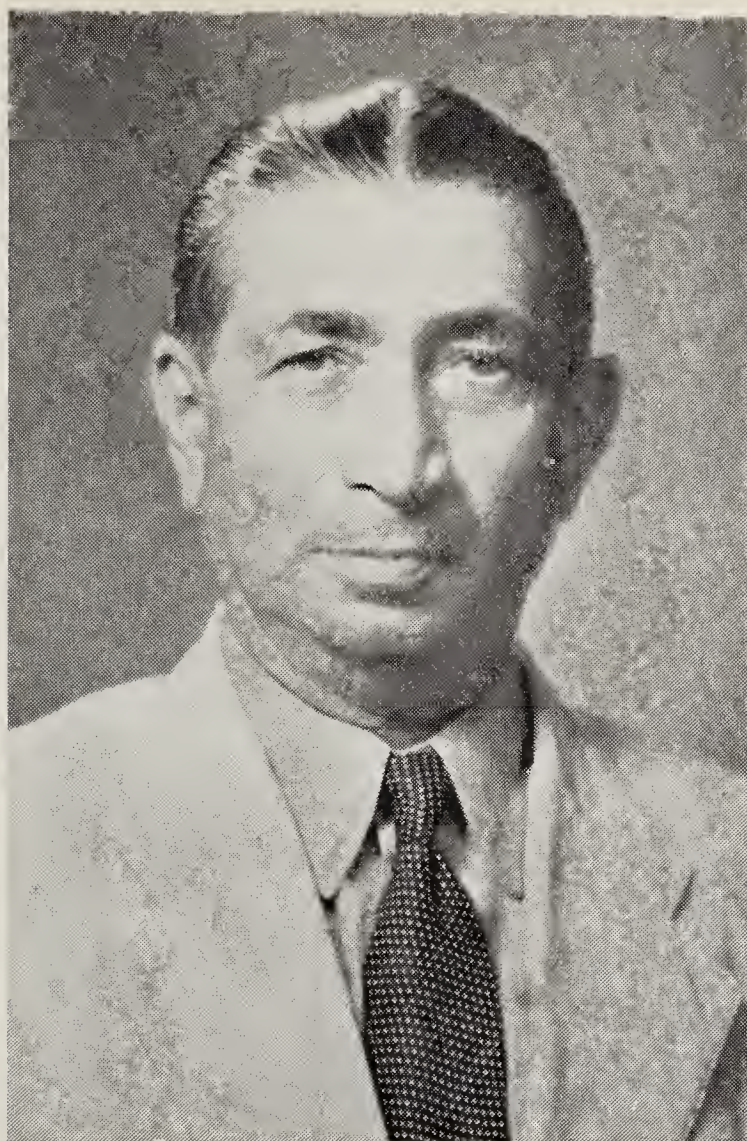
284. Various Health Education Committees have been formed for the efficient running of the Health Education programmes. The Policy Making Committee on Health Education met four times to consider the progress made in Health Education Work and also to sponsor the Island Wide Health Week. At present three Health Education Sub-Committees are functioning in different Community Centres. The appointment of a Health Education Sister for work in Social Welfare Centres has speeded the effectiveness of the work of these Committees.

World Health Organisation/Food and Agricultural Organisation Seminar on Health Education and Nutrition Education

285. The Health Education Officer attended a World Health Organisation Seminar on Health Education and Nutrition Education sponsored by the World Health Organisation and Food and Agricultural Organisation held at Manila, Philippines from October 7th to November 7th 1955. Representatives from 23 countries attended the Seminar. Different methods and techniques applicable in health education and nutrition education in various countries were discussed. Some of the methods suggested at the Seminar are being adopted for improving the Health Education Programme in Singapore.

PART III

THE HOSPITALS DIVISION



The late Mr. Navroji Rustomji Mistri, who donated about one million dollars towards the cost of the modern pædiatric unit at the General Hospital, shown below



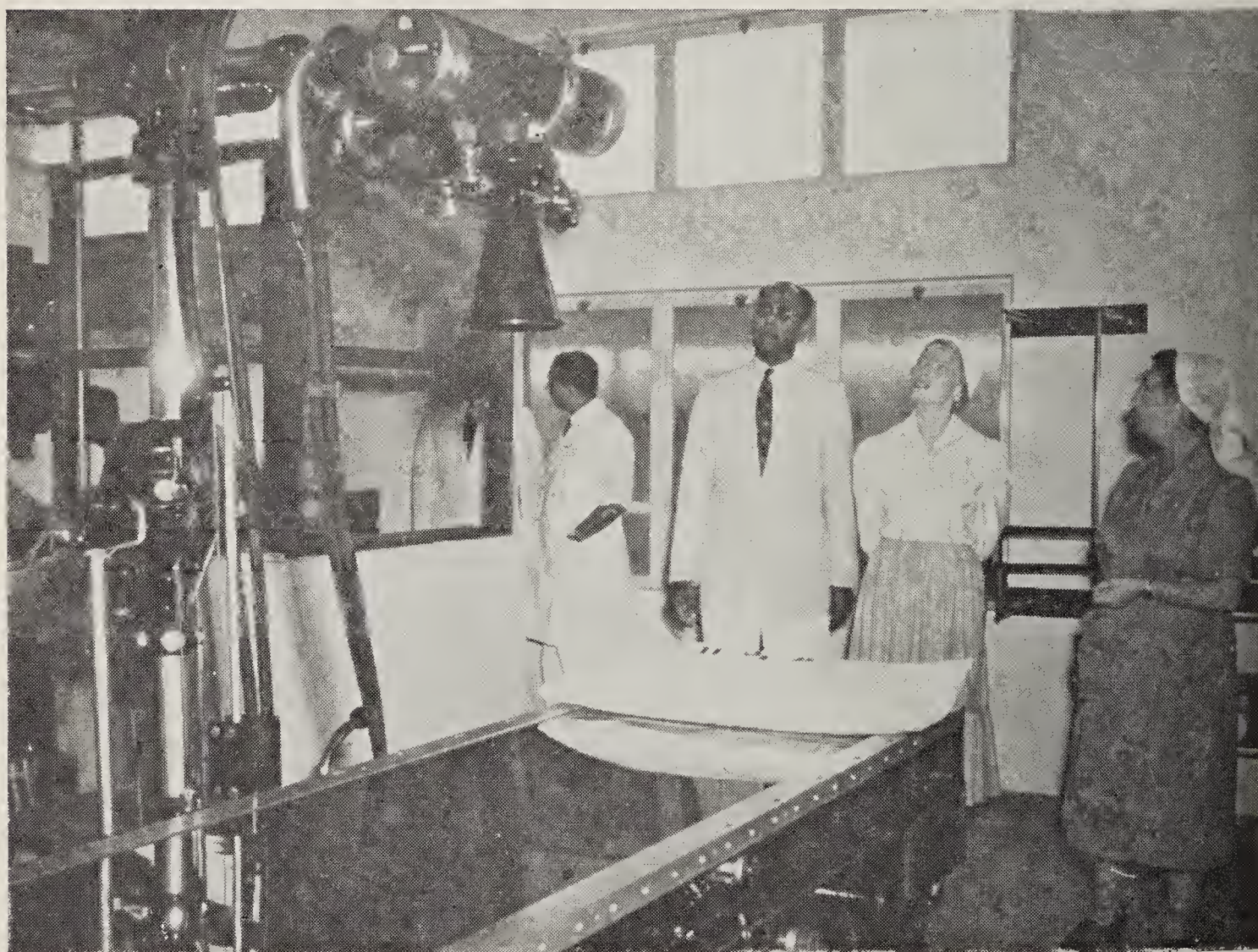
D.I.S.

Mistri Wing, General Hospital



D.I.S.

The Rt. Hon. Alan Lennox Boyd inspecting the General Hospital



D.I.S.

Lady Patricia Lennox Boyd viewing the X-Ray Department in Kandang Kerbau Hospital

CHAPTER FOURTEEN

THE HOSPITALS DIVISION

GENERAL REVIEW

286. The past year has been marked by continued progress in the expanding medical services.

287. In March the new Theatre Blocks at the General Hospital were completed. These blocks provide eight new operating theatres plus a uro-genital theatre complete with X-ray facilities. In addition full out-patient facilities with unit laboratories and new first and second class accommodation are included.

288. In October the Mistri Wing at the General Hospital was officially opened by Lady Black, the wife of H.E. the Governor of Singapore. This new wing was built as a result of the generosity of the late Mr. N. R. Mistri. It provides two complete pædiatric units each of one hundred and fifty beds and provides the most up-to-date facilities for the treatment of sick children.

289. The extension to the Dental Clinic which was started in 1954 was completed at the beginning of this year.

290. In September work was started on the new Nurses's Hostel and Training School. When completed accommodation will be available for a further 200 nurses in training. The training School is of most modern design and will meet the increasing demands of the medical services for trained nurses.

291. Towards the end of the year work was started at the General Hospital to provide a new Ear, Nose and Throat Unit. It is hoped that this will be completed about the middle of 1956.

292. During the year work continued on the reconstruction and modernisation of the wards at the General Hospital. As this hospital is the only acute medical and surgical hospital in Singapore and the main centre for the training of medical students and nurses, it is essential that the highest standards must be reached and maintained.

293. In August Lady Black opened the completed extension to Kandang Kerbau Hospital which provides additional accommodation for midwifery cases and modern theatre and out-patient facilities. When the full programme of work planned is completed at this hospital, it will be one of the most modern obstetrical and gynæcological hospitals in South-East Asia.

294. At Tan Tock Seng Hospital work started in November 1954 on the extensions so urgently needed. When completed an additional 1,200 beds will be provided with full modern facilities including a chest surgery unit.

295. Plans are at an advanced stage of preparation for many of the buildings urgently required by the expanding medical service. Unfortunately the speed of construction cannot match the impatience of the medical staff nor meet the rapidly increasing demands made by the public on their services.

296. The steady increase in the number of patients treated in the Singapore hospitals which has been recorded every year has been maintained and the following table shows the total number treated in the four main

hospitals (General Hospital, Kandang Kerbau, Tan Tock Seng and Middle Road) over the past years. The figure for 1938 has been included for comparison. It is interesting to note that while the figure for out-patients for 1955 does not include all Singapore hospitals, it actually exceeds the estimated population figure on 31st December, 1955, which is given as 1,236,609.

<i>Year</i>		<i>In-Patients</i>	<i>Out-Patients</i>
1938	...	25,913	87,447
1947	...	27,514	305,138
1949	...	32,998	461,238
1951	...	40,833	612,095
1952	...	48,550	726,310
1953	...	55,420	957,481
1954	...	58,859	1,169,689
1955	...	62,024	1,271,165

297. If these figures are examined in conjunction with the graphs on the next two pages, it will be seen that the increases over the previous years is not as marked as before. In the case of the in-patients, there was an increase in 1952 amounting to 19 per cent of the 1951 figure. In 1953 the figure was 15 per cent, the 1954 figure was six per cent and the figure for 1955 is six per cent. This does not imply that the position is tending to become stable; it merely means that the demands on the available accommodation and staff have nearly reached saturation point and, unless there is an increase in both, it will be impossible to do much more with the facilities at our disposal.

298. The following table indicates the number of beds available at the various Government hospitals:—

BEDS AVAILABLE AT VARIOUS GOVERNMENT HOSPITALS

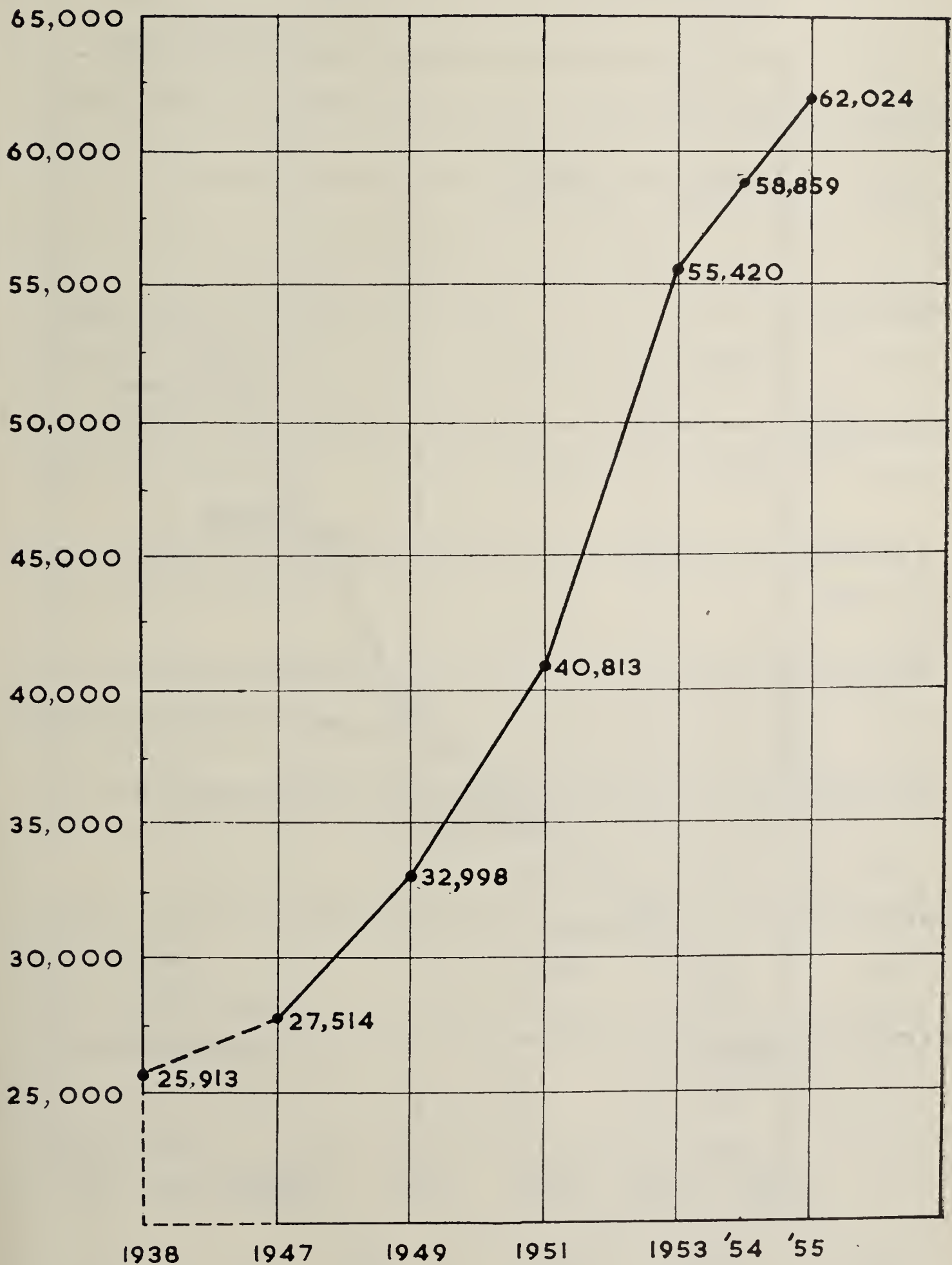
—	Pre-war	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
General ..	750	550	550	600	700	700	750	800	800	800	957*
Kandang Kerbau (excluding cots) ..	180	200	220	240	240	240	240	240	240	240	316
Tan Tock Seng ..	600	400	400	550	572	600	540	565	565	564	564
Orthopædic ..	..	60	60	60	65	70	70	78	120	120	120
Prisons ..	140	50	50	118	118	140	140	160	160	160	160
Social Hygiene (excluding cots) ..	Part of General	60	60	60	68	70	70	70	70	60	65
Infectious Disease ..	250	250	250	250	250	250	250	250	250	200	200
Leprosy Settlement ..	200	260	347	382	451	536	640	725	790	642	954
Police Training School ..	20	20	20	20	20	20	20	20	20	20	20
Mental ..	2,000	440	700	1,000	1,200	1,600	1,800	1,800	1,800	1,800	1,800

* This figure does not give a true picture of the actual increase in beds but only of the beds available. Over 150 beds are still not in use in the Mistri Wing owing to lack of staff and part of the old Children's Wards is under construction to convert the accommodation for use as an E. N. T. Unit.

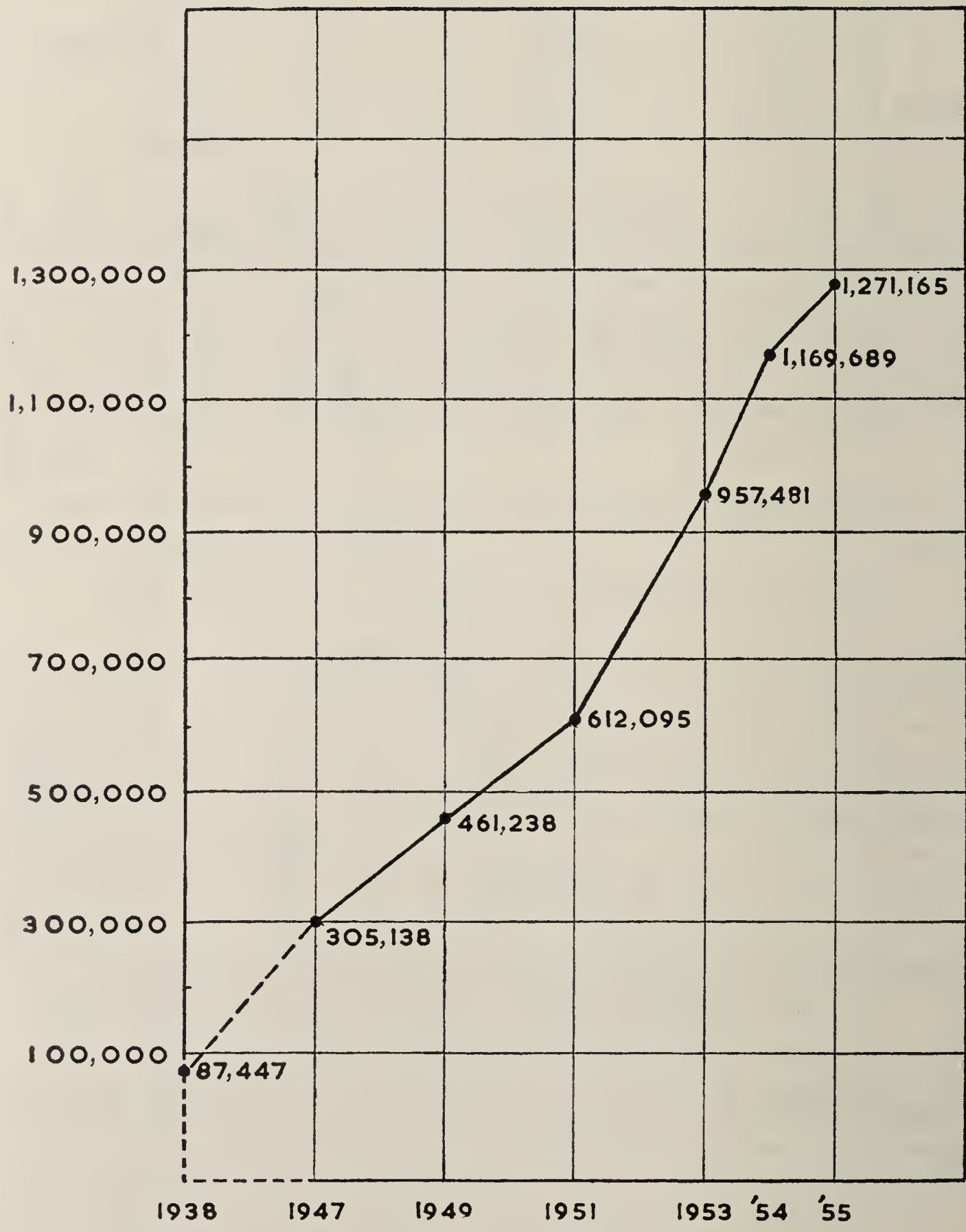
299. While there was a substantial increase in the number of beds in the Colony during 1955 it was not possible to use more than 150 of these, particularly in the new Pædiatric Unit owing to lack of staff. Additional beds are urgently required but increase in both doctors and nurses are required if such beds are to be used effectively. There is still a shortage of both nurses and doctors. With the provision of a new nurses training school and a new nurses hostel it is hoped that the supply of nurses will increase and keep pace with medical expansion. The supply of locally trained doctors is limited to under sixty per annum and only a proportion of these will elect to work in Singapore. It is obvious that overseas recruitment is necessary if the supply of medical officers is to keep pace with the expanding medical service.

SINGAPORE MAIN HOSPITALS

TOTAL NUMBER OF IN-PATIENTS TREATED



SINGAPORE MAIN HOSPITALS
TOTAL NUMBER OF OUT-PATIENTS TREATED



NON-GOVERNMENT HOSPITALS

300. The following institutions provide beds for the public:—

Kwong Wai Siu Free Hospital (Chinese).

St. Andrew's Mission Hospital (Chinese).

Malayan Union Mission of Seventh-day Adventists.

Hainanese Hospital.

Kheh Hospital.

MAINTENANCE CHARGES OF THE MAIN HOSPITALS (DAILY AVERAGE)

	Paying Patients (a)	Paying Patients (b)	Free Patients
	\$ c.	\$ c.	\$ c.
GENERAL HOSPITAL			
Maintenance including diet	27 74	26 07	24 33
KANDANG KERBAU HOSIPTAL			
Maintenance including diet	22 62	21 76	20 61
TAN TOCK SENG HOSPITAL			
Maintenance including diet .. ..	..	..	Non T.B. 11 40 T. B. 14 05
SOCIAL HYGIENE HOSPITAL			
Maintenance including diet .. ..	..	..	13 78

IN-PATIENTS ADMISSIONS FOR THE YEAR 1955

	Paying	Free	Total
General Hospital.. ..	3,622	23,796	27,418
Kandang Kerbau Hospital	2,512	27,022	29,534
Tan Tock Seng Hospital .. ..	..	1,995	1,995
Social Hygiene Hospital .. ..	..	1,381	1,381
Middleton Hospital .. ..	..	3,312	3,312
St. Andrew's Ortho. Hospital ..	..	132	132
Total ..	6,134	57,638	63,772

301. Excluding mental and leprosy cases, out of the total number of in-patients admitted throughout the year 6,134 or 10 per cent were paying cases.

AMBULANCE SERVICE

302. The Ambulance Advisory Committee met as and when required to review the Colony's requirements in this field.

303. The number of ambulances in use at the various hospitals at the end of the year was as follows:—

General Hospital	...	...	...	6
Kandang Kerbau Hospital	...	...	...	4
Tan Tock Seng Hospital	...	...	...	2
Middleton Hospital	...	...	...	2
Fire Brigade Accident Service	...	...	...	6
Rural Board	...	...	...	1

One new ambulance is on order through the Mechanical Engineer, P.W.D., and delivery is expected soon.

304. At the present time two of our ambulances have covered over 100,000 miles on duty, and these have been reconditioned by the P.W.D. and are again in service.

305. Owing to the bus strike in the latter part of 1955 the work carried out by the ambulnace service was very much increased as shown by the figures below for the last three years:—

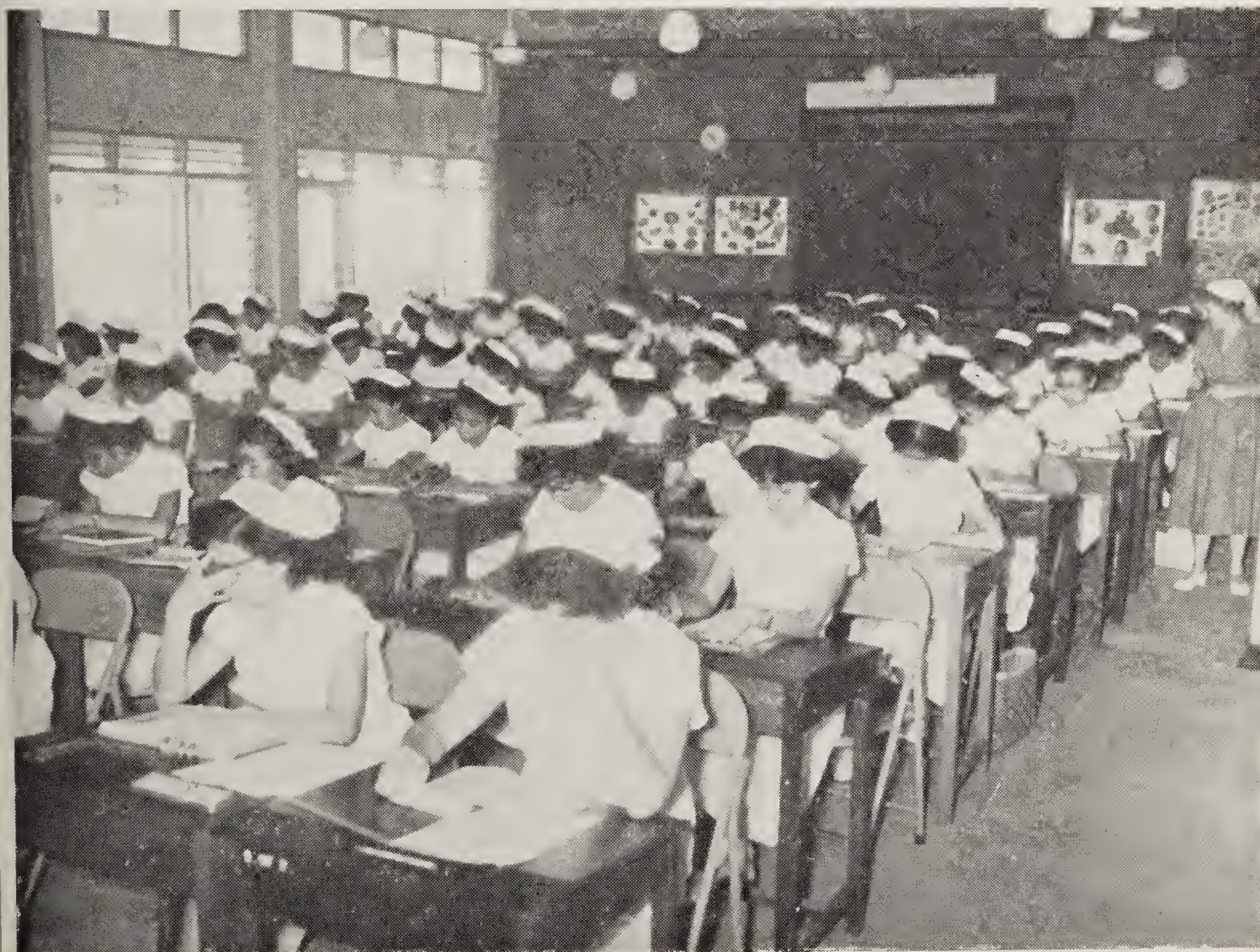
<i>Years</i>			<i>Patients</i>	<i>Mileage Covered</i>
1953	...	...	5,725	68,368
1954	...	...	7,906	74,542
1955	...	...	10,105	102,688

306. The Chief Medical Officer, Singapore, Dr. R. Calderwood, M.B., CH.B. (U. of Glasgow), D.T.M. & H. (London), D.P.H. (London), went on long leave in May 1955. Dr. W. E. Hutchinson, O.B.E., M.D., D.P.H. (Dublin), M.B., CH.B. (Dublin), acted for him during his absence.



D.I.S.

Lady Black inspecting a Guard of Honour



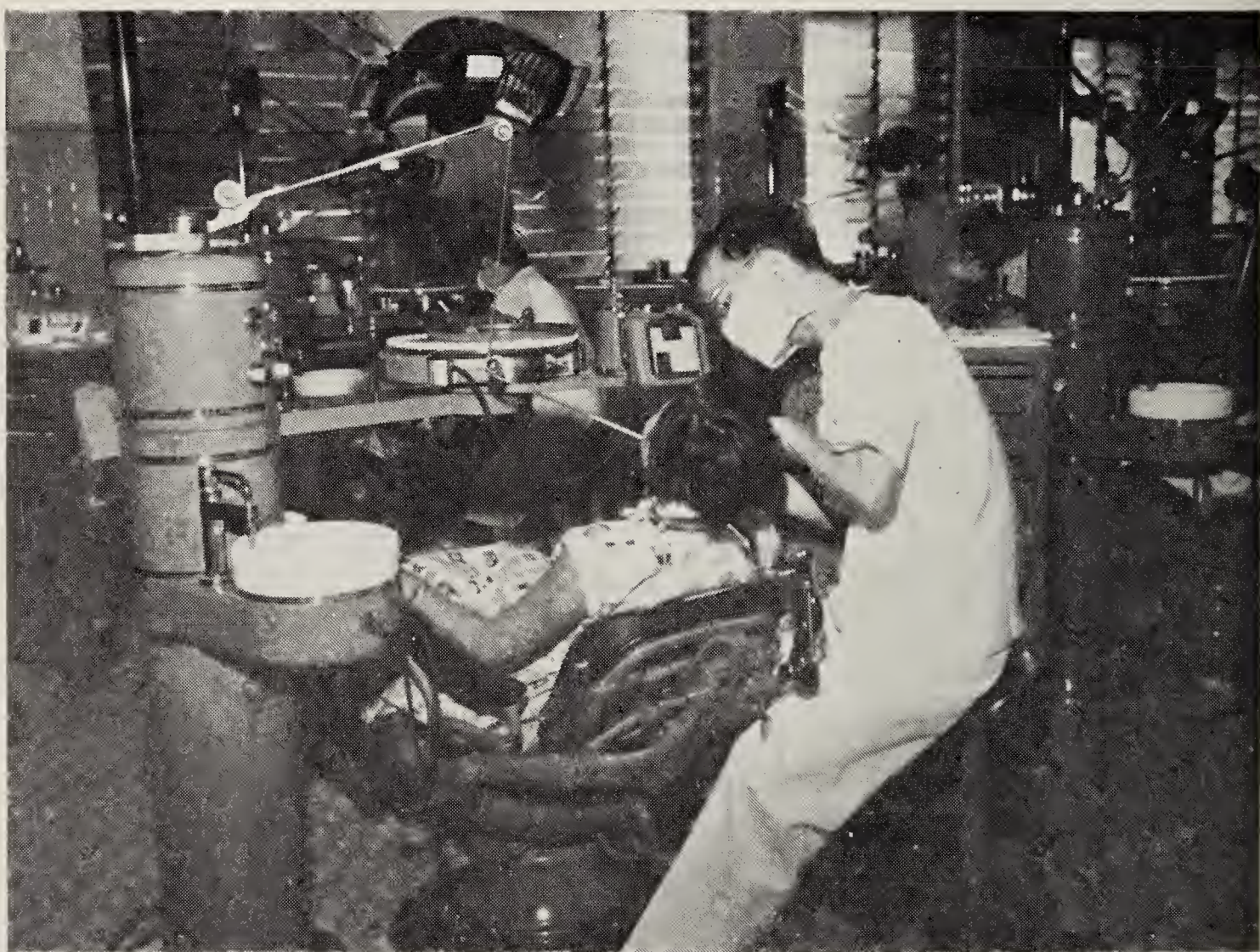
D.I.S.

Lecture Room—Nurses Training School



D.I.S.

Dental Laboratory, Dental Training School, General Hospital



D.I.S.

Another section of Dental Laboratory, General Hospital

CHAPTER FIFTEEN

THE GENERAL HOSPITAL

307. The General Hospital remains the only hospital in the Colony for the treatment of acute medical and surgical conditions. The average daily number of patients was 850 compared with 780 the previous year.

308. The following table gives a summary of the volume of work undertaken in this hospital:—

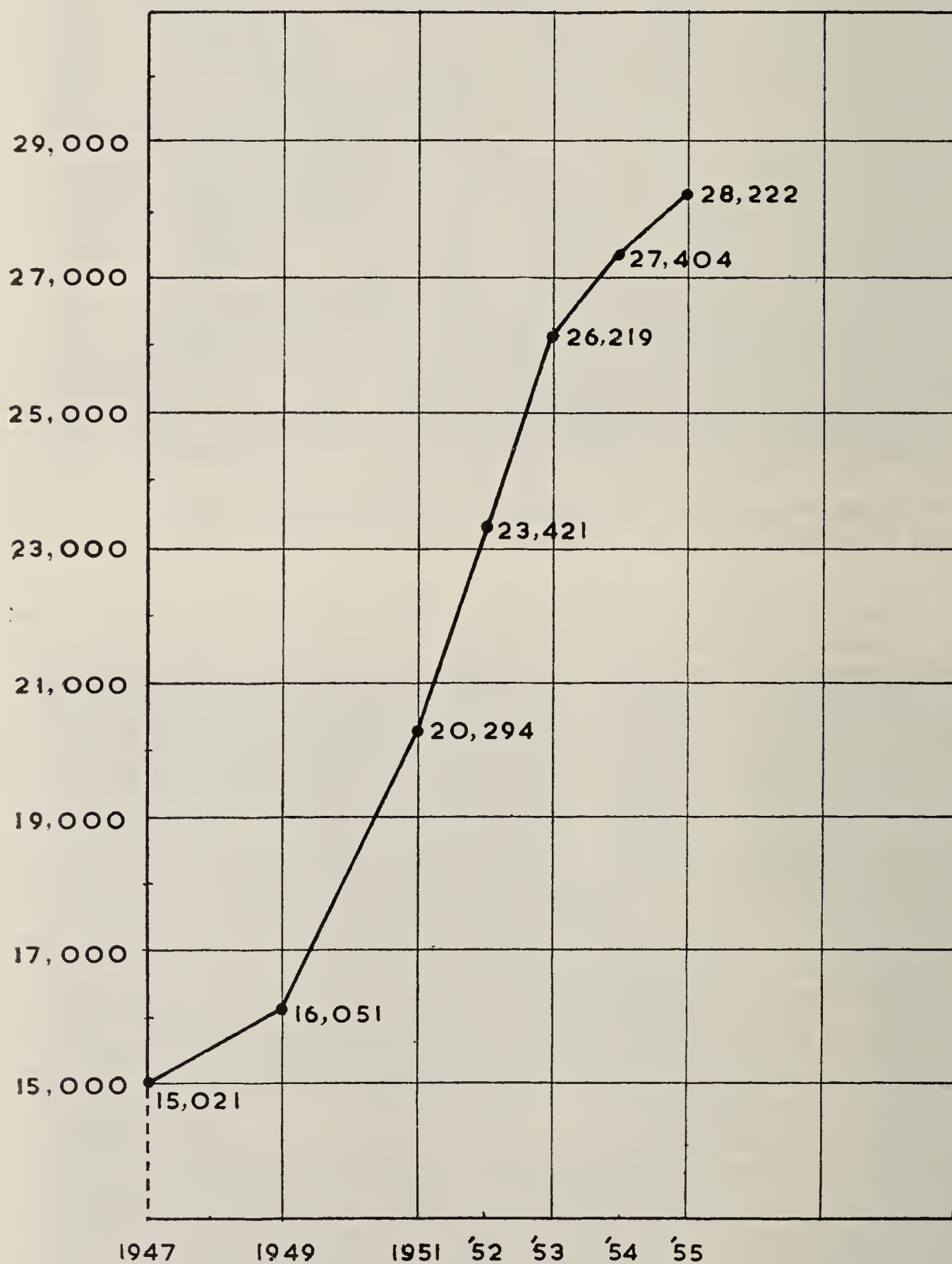
<i>Year</i>			<i>In-Patients</i>	<i>Out-Patient Attendances</i>
1947	...	...	15,021	160,388
1949	..	...	16,051	234,173
1952	...	...	23,421	358,769
1953	...	...	26,219	482,332
1954	...	...	27,404	615,588
1955	...	...	28,222	691,064

309. The most significant increase is again in the out-patients where the increase compared with 1954 was 12 per cent. This gives a daily average of out-patients attending various departments at the General Hospital of nearly 2,400. When this is coupled with the figure of 850, the daily average number of in-patients, this gives the quite staggering figure of 3,250 persons undergoing treatment either as in-patients or out-patients in one day at this hospital.

310. The problem of the chronic sick still remains to be solved. This problem is twofold. The cost of maintaining a bed in the General Hospital is necessarily high. To justify this high cost the beds must be used to full advantage. At the present time a proportion of these beds are continually occupied by the chronic sick and infirm who could be adequately cared for in an infirmary where the cost per unit would be considerably below that of the General Hospital. The second aspect of this problem is the human one. Because there is no chronic hospital in Singapore patients for whom much could be done have their admission to hospital delayed because the beds which they could occupy are filled by chronic sick for whom little can be done in the way of curative treatment. The provision of a hospital for the chronic sick is justified both on economic grounds and on the grounds of humanity. It is hoped that some solution to this problem will be found soon.

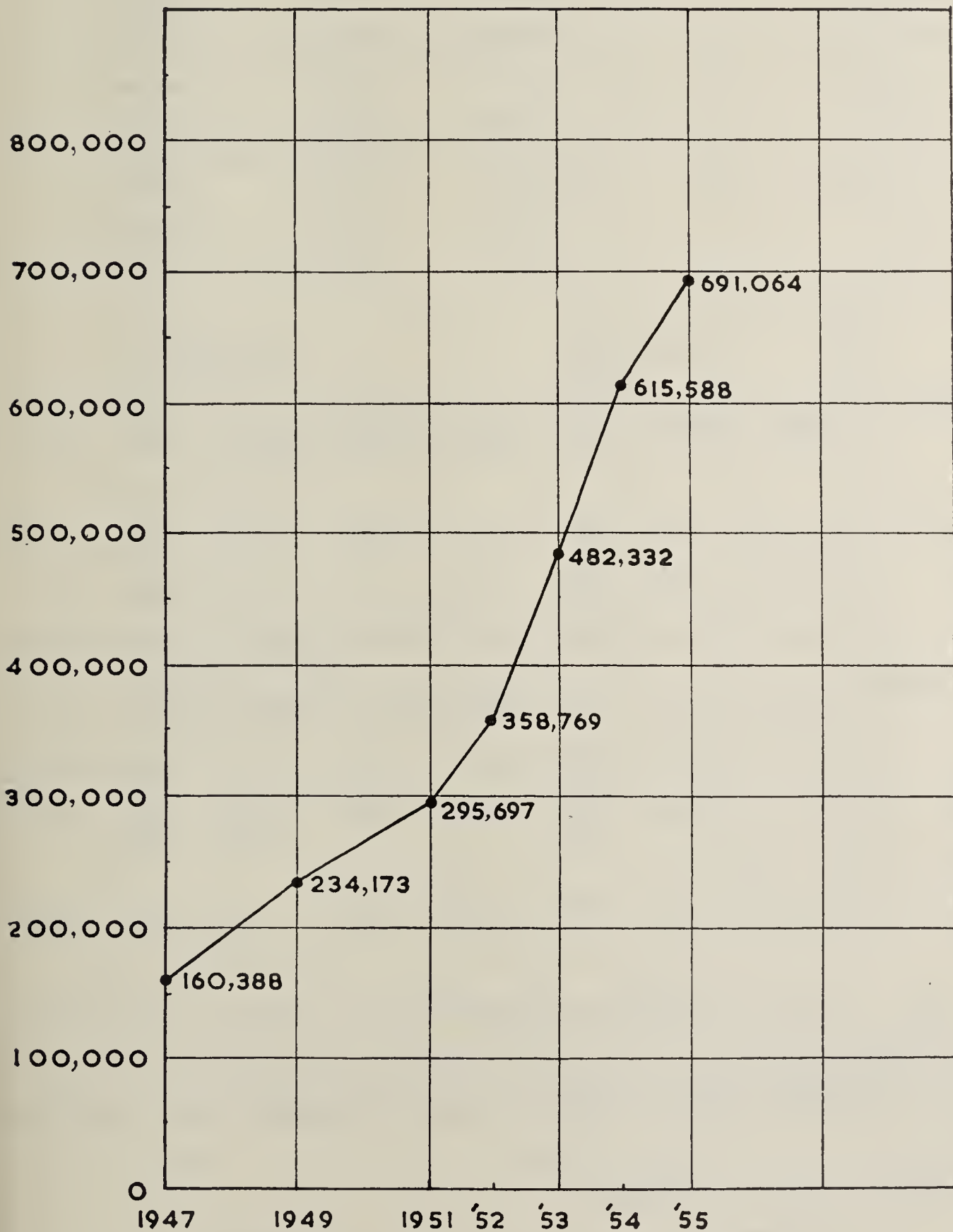
311. At the present time there are three surgical units (two general and one orthopædic), two medical units and one ophthalmic unit. The opening of the new Mistri Wing in October provided a modern pædiatric unit of about 300 beds. The ear, nose and throat unit is without separate accommodation and shares both theatre and ward accommodation with one of the surgical units. Work, however, was begun during the year on the construction of a separate ear, nose and throat unit which will be completed about the middle of 1956. The New Theatre Unit was opened in March. In addition to providing sixty-six surgical beds it has eight modern operating theatres plus a uro-genital theatre complete with X-ray equipment. This new theatre block by providing sufficient operating facilities for the two general surgical units has reduced to the minimum the delay in handling surgical cases requiring operation.

GENERAL HOSPITAL
TOTAL NUMBER OF IN - PATIENTS TREATED



GENERAL HOSPITAL

TOTAL NUMBER OF OUT-PATIENTS TREATED



312. The General Hospital is the main teaching institution for medical and dental students and is the training school for nurses.

313. The following tables give a brief analysis of the cases treated.

CASES ATTENDING OUT-PATIENTS DEPARTMENT

<i>Out-Patients</i>			<i>New Cases</i>	<i>Repetitions</i>	<i>Total Attendances</i>
1947	...	...	40,496	73,671	114,167
1949	...	...	45,966	107,568	153,534
1950	...	...	53,811	108,713	162,524
1952	...	...	79,672	160,348	240,020
1953	...	...	128,889	353,443	482,332
1954	...	...	170,448	445,140	615,588
1955	...	...	215,887	475,177	691,064

Races	NEW CASES				REPETITIONS			
	Male	Female	Child	Total	Male	Female	Child	Total
Europeans ..	881	546	273	1,700	3,460	2,863	893	7,216
Eurasians ..	1,433	663	492	2,588	6,615	2,118	1,381	10,114
Chinese ..	58,057	50,902	37,660	146,619	136,720	98,032	88,266	323,018
Indians and Pakis- tanis ..	20,337	4,927	4,983	30,247	62,751	12,209	10,842	85,802
Malays ..	13,427	4,082	4,106	21,615	23,866	7,890	6,521	38,277
Javanese ..	1,770	1,644	426	3,840	1,900	1,302	2,680	5,882
Japanese ..	13	1	..	14	4	..	..	4
Others ..	1,693	499	437	2,629	2,856	715	1,293	4,864
Total ..	97,611	63,264	48,377	209,252	238,172	125,129	111,876	475,177

314. In addition Medical Officer-in-charge of Officials dealt with 6,635 cases.

Monthly average out-patients:

New cases	...	...	...	17,990.58
Repeats	...	...	...	39,598.08
Total attendances				...
				57,588.66

315. The following table shows the Main Causes of Death amongst the patients admitted to the General Hospital:—

<i>Causes of Deaths</i>	<i>1954</i>		<i>1955</i>	
	<i>Admissions</i>	<i>Deaths</i>	<i>Admissions</i>	<i>Deaths</i>
Enteric group ...	121	7	91	6
Typhus ...	36	—	22	—
Malaria ...	112	4	87	4
Diphtheria ...	28	4	20	2
Influenza ...	21	—	30	—
Dysentery, Diarrhoea and Enteritis	1,146	233	1,335	232
Leprosy ...	19	—	66	—
Tuberculosis Respiratory System	639	75	742	119
Other tuberculosis disease ...	505	101	572	121
Cancer ...	1,098	212	1,070	235
Beri Beri ...	28	7	53	7
Cerebral Hæmorrhage ...	112	73	148	100
Diabetes ...	276	14	243	17
Bronchitis ...	500	9	513	16
Pneumonia all forms ...	1,108	279	1,158	255
Other Respiratory diseases ...	2,205	57	2,308	49
Ulcer of Stomach, Duodenum, etc.	565	31	675	32
Ankylostomiasis ...	46	1	48	—
Other Intestinal Parasites ...	72	3	112	3
Appendicitis ...	1,000	14	1,154	16
Cirrhosis of Liver ...	175	45	158	31
Acute and Chronic Nephritis ...	533	57	499	55
Venereal Affections ...	112	26	193	16
Congenital debility, Malnutrition, Premature Birth, etc. ...	159	42	510	79
Suicidal ...	203	38	166	28
Other forms of Violence ...	2,979	134	3,716	202
Other diseases ...	12,895	852	11,729	693
Total ...	26,693	2,318	27,418	2,318

THE MEDICAL UNITS

316. There are two general medical units and since October there has been a full pædiatric department functioning at the General Hospital.

Unit	Head of Unit	Basic Beds
Medical Unit I ..	Prof. G. A. Ransome, F.R.C.P., M.R.C.S. ..	120
Medical Unit II ..	Prof. E. S. Monteiro, M.D., F.R.F.P. and S., M.R.C.P., D.C.H.	153
Paediatric Unit ..	Dr. (Miss) C. E. Field, M.D., M.R.C.S., M.R.C.P. ..	300

Medical Unit I

317. Prof. G. A. Ransome was on leave in the United Kingdom from 15th June until 29th September. In his absence Dr. T. J. Danaraj acted as Head of this Unit.

318. The department is now fully equipped to carry out routine and advanced laboratory work in connection with the treatment and investigation of patients, and clinical clerks attached to the Unit are posted to the laboratory for short periods. The electro-encephalograph has been received and is now installed in an air-conditioned room in the Unit.

319. The accommodation for patients remains the same as in the past years and, until there is an increase in the number of beds available in Singapore, the wards will remain as crowded as they have been in the past. Selected patients who require further treatment and those required for teaching and research attend out-patient sessions held on different days of the week. Attendances at these clinics during the year were as follows:—

			<i>Follow up</i>	<i>New cases</i>
Chest and Hæmatology Clinic	...	...	2,736	69
General Out-Patient Clinic	...	...	8,915	333
Cardiac Clinic	...	...	6,034	217
Endocrine and Eosinophilic Lung Clinic	...	...	1,332	89
Neurology Clinic	...	...	2,247	138
			<hr/>	<hr/>
	Total	...	21,264	855
			<hr/>	<hr/>
	Grand Total	...		22,119
				<hr/>

320. Research has been mainly confined to clinical observations of selected individual cases and series of cases laying particular stress on their diagnosis and treatment. The outcome of this work has resulted in the increased recognition and better management of certain tropical diseases with a considerable lowering of the case fatality rate.

321. Hæmatological studies have revealed an increasing number of cases of megaloblastic anæmia and their varying response to treatment with Vitamin B12 and Folic Acid is under study at the present moment. Therapeutic trials with triethylene melamine, myleran and other anti-leukæmic drugs in the treatment of reticuloses and leukæmia have been carried out for the last two years. The response of chronic myeloid leukæmia to myleran has been gratifying and it is possible that this drug will replace deep X-ray therapy in the future.

322. Suppurative conditions of the lung are seen very frequently in Singapore. A study of these cases which was undertaken two years ago is still proceeding with special stress on ætiology and treatment with antibiotics.

323. A large Cardiac Clinic offers considerable scope for the study of both congenital and acquired heart disease. The congenital heart clinic which was started in 1946 has led to the recognition of a large number of cases of varying types of malformations. It is hoped that in the near future surgical treatment will be available for those cases for whom it is indicated. Therapeutic trials with various hypertensive drugs are being conducted at the present moment.

324. In Singapore lead poisoning has been recognised from time to time in lead accumulator workers, type setters and painters. During the last year there were six cases of lead poisoning, the source of which was found to be a Chinese medicine powder. Analysis of random samples of this medicine powder obtained from shops in the city were found to contain lead, and following this appropriate action was taken by the Health Department to prevent the sale of this adulterated powder.

325. The Clinical Laboratory which is under the direct charge of the Professor of Medicine is fully equipped to carry out biochemical and hæmotological work and serves the Hospital during the whole 24 hours. As there is a quick turnover of cases from the various Units, it is imperative that laboratory facilities should be easily available and results readily obtained. The large number of specimens that have been examined during the course of the year will indicate how freely this service is being used by the Hospital as a whole. The following table indicates the scope of the work carried out by this laboratory: it will be noted that over a quarter of a million specimens were examined:—

				1955
Blood Examination	Physiological	...	...	76,745
	Biochemical	...	...	12,602
Urine	Biochemical	...	...	619
	Routine	...	...	77,788
Cerebro-Spinal Fluid	...	...	...	7,639
Other Body Fluids	...	...	...	843
Examination of Gastric Contents	...	...	...	3,432
Examination of Blood Films	...	...	...	16,019
Examination of Smears and Skin Scrapings	...	...	...	1,158
Examination of Sputa	...	...	...	12,488
Examination of Stools	...	...	...	22,571
E. C. G.	...	...	...	2,323
B. M. R.	...	...	...	1,136
Vital Capacity Test	...	...	...	3
Clinical Photography	...	...	...	122
Medical I's Leukæmia and Anæmia Research	...	...	...	3,995
Total				239,483

Medical Unit II

326. Prof. E. S. Monteiro was on long leave in the United Kingdom; having left Singapore towards the end of 1954 he returned in the middle of May 1955. During his absence Dr. Khoo Oon Teik acted as Head of the Unit.

327. In addition to the routine work carried out in the Unit under very overcrowded conditions, various follow-up clinics and out-patient clinics

are run by the various members of the staff. During 1955 30,000 cases were seen in these various clinics. This figure includes 12,630 cases seen at the skin clinic which is staffed by members of this Unit.

328. At the end of the year various interesting lines of research were in progress. These included—

- (1) Studies in Congenital Heart Disease;
- (2) Appraisal of Stellate Ganglion Block in cases of Cerebral Thrombosis;
- (3) The use of the newer Insulins in the treatment of Diabetes and, in conjunction with the Surgical Units, Mitral Valvulotomy for Rheumatic Mitral Stenosis.

Pædiatric Unit

329. As already stated, the Pædiatric Department was opened in October 1955. Dr. (Miss) C. Elaine Field was appointed Pædiatric Specialist in April 1955, and assumed control of this department where previously Dr. Quah Quee Guan had acted as Head since the beginning of the year.

330. The opening of the new Pædiatric Unit raised the bed strength from 90 in the old wards to about 300 in this new Unit. Unfortunately lack of staff has prevented putting the whole of this accommodation into use and to date only 180 beds have been opened. It is hoped that by the middle of 1956 all the beds available will be in use.

331. A further fall in the overall mortality rate is reported and the following table indicates the trend over the past four years:—

			<i>Total Admissions</i>	<i>Per cent Mortality Rate</i>	<i>Per cent Mortality Rate excluding Deaths within 24 hours</i>
1952	...	...	3,590	31.87	19.39
1953	...	...	4,724	25.68	9.76
1954	...	...	4,461	19.68	5.54
1955	...	...	4,570	20.04	7.46

332. Gastro-enteritis remains the major killing disease in infants, the majority of whom die within the first 24 hours, being admitted in a moribund state. Broncho-pneumonia remains a good second. However, it is gratifying to find in 1955 a small reduction in mortality for both gastro-enteritis and pneumonia compared with returns for the previous year.

333. Tuberculosis in children seems to be on the increase. In 1955 there were 203 admissions of whom 112 were suffering from tuberculosis meningitis, whereas in 1954 only 174 were admitted of whom 94 were suffering from tuberculosis meningitis. Furthermore, in spite of improved methods of treatment no reduction in the mortality rate was noted.

334. Dr. Field emphasizes that it is important to realise that two of the diseases with a high mortality, namely, gastro-enteritis and tuberculosis meningitis, are largely preventable diseases, so that although no further improvements can be made in treatment the major attack must be on the side of prevention through hygiene, education and B.C.G. vaccination.

335. The following table gives a summary of the cases treated in the Pædiatric Unit:—

<i>Diseases</i>	<i>Admissions</i>	<i>Total Deaths</i>	<i>Deaths within 24 hours</i>	<i>Discharges</i>	<i>Mortality Rate %</i>
Gastro-enteritis ...	1,149	257	194	892	5.91
Bronchopneumonia ...	612	169	134	443	3.89
Bronchitis ...	381	5	3	376	0.12
Nasopharyngitis ...	531	3	3	528	0.07
Bronchial asthma ...	12	0	0	12	—
Tuberculosis ...	203	82	14	121	1.89
(a) Meningitis ...	112	68	9	44	1.56
(b) Pulmonary ...	63	6	4	57	0.14
(c) Glandular ...	13	1	0	12	0.02
(d) Miliary ...	15	7	1	8	0.16
Empyema ...	32	11	5	21	0.25
Malnutrition ...	36	2	0	34	0.05
Cong. Anomalies					
(a) Heart ...	146	44	26	102	1.01
(b) Intest. stresis ...	2	2	0	0	0.05
(c) Pyloric stenosis ...	4	0	0	4	—
(d) Imperf. anus ...	—	—	—	—	—
(e) Biliary obst. ...	19	4	3	15	0.09
(f) Hirschsprungs ...	1	0	0	1	—
(g) Others ...	19	4	2	15	0.09
Acute Nephritis ...	122	5	5	117	0.12
Subacute Nephritis ...	33	2	2	31	0.05
Rickets ...	12	0	0	12	—
Encephalitis					
(a) Jap. B ...	1	1	1	0	0.02
(b) Others ...	59	22	9	37	0.51
Purulent Meningitis ...	80	35	19	45	0.81
Tetanus					
(a) Neonatorum ...	19	18	7	1	0.41
(b) Others ...	4	2	0	2	0.04
Worms					
(a) Ascariasis ...	51	0	0	51	—
(b) Ankylostomiasis ...	7	0	0	7	—
Rheumatic Diseases					
(a) Heart ...	11	3	2	8	0.07
(b) Joints ...	4	0	0	4	—
(c) Chores ...	2	0	0	2	—
Skin					
(a) Pemphigus ...	15	1	0	14	0.02
(b) Inf. Eczema ...	6	0	0	6	—
(c) Allergic derm. ...	12	0	0	12	—
(d) Others ...	19	0	0	19	—
<i>Carried forward</i> ...	<u>3,807</u>	<u>754</u>	<u>443</u>	<u>3,053</u>	<u>17.35</u>

<i>Diseases</i>	<i>Admissions</i>	<i>Total Deaths</i>	<i>Deaths within 24 hours</i>	<i>Discharges</i>	<i>Mortality Rate %</i>
<i>Brought forward</i> ...	3,807	754	443	3,053	17.35
<i>Anæmias</i>					
(a) Nutritional ...	8	0	0	8	—
(b) Leukæmia ...	9	2	1	7	0.05
(c) Cooleys ...	13	0	0	13	—
(d) Rh & ABO incomp. ...	3	1	1	2	0.02
(e) Aplastic ...	2	0	0	2	—
(f) Others hæm. ...	18	2	2	16	0.05
Infective Hepatitis ...	54	0	0	54	—
Cardiac beri ² ...	28	5	5	23	0.12
Kernicterus ...	29	22	18	7	0.51
<i>Mental Deficiency</i>					
(a) Mongol ...	9	0	0	9	—
(b) Cretin ...	0	0	0	0	—
(c) Microcephaly ...	5	0	0	5	—
(d) Cerebral palsy ...	13	0	0	13	—
<i>Poisonings</i>					
(a) Caustic soda ...	29	0	0	29	—
(b) Liniment ...	6	0	0	6	—
(c) Others ...	45	0	0	45	—
Cerebral Hæm. ...	24	15	12	9	0.35
<i>Infectious Diseases</i>					
(a) Measles ...	23	0	0	23	—
(b) Bac. Dysentery ...	17	0	0	17	—
(c) Diphtheria ...	19	0	0	19	—
(d) Mumps ...	2	0	0	2	—
(e) Whooping cough ...	9	0	0	9	—
(f) Ameobiasis ...	12	1	1	11	0.02
Epilepsy ...	13	1	0	12	0.02
Blood dyscrasias ...	8	3	2	5	0.07
Otitis Media ...	9	0	0	9	—
Lobar pneumonia ...	14	2	1	12	0.05
Bronchiectasis ...	2	0	0	2	—
Stomatitis ...	16	0	0	16	—
Others ...	324	62	43	262	1.43
Total ...	4,570	870	529	3,700	20.04

THE SURGICAL UNITS

336. There are three Surgical Units, one of which deals with traumatic and orthopædic work.

Unit	Head of Unit	Basic Beds
Surgical Unit "A" ..	Prof. Yeoh Ghim Seng, L.R.C.P., M.B., Ch.B., F.R.C.S.	148
Surgical Unit "B" ..	Mr. H. M. McGladdery, L.R.C.P., M.B., B.S., Ch.B., F.R.C.S.	136
Surgical Unit "D" ..	Prof. A. G. Karlen, M.D., F.R.C.S.	121

Surgical Unit A

337. Prof. D. E. C. Mekie retired in September, 1955, and Prof. Yeoh Ghim Seng was appointed Professor of Surgery, University of Malaya. Prof. Yeoh Ghim Seng reports as follows:—

(i) "This year saw the opening of the new Theatre Block with its 1st and 2nd class air-conditioned wards, about April. These new wards brought the establishment of the Unit to a strength of 150 beds. Accordingly, the amount of work has increased and, in spite of the number of theatres, i.e., from one major and one minor theatres to three major and one minor theatres, the number of patients admitted was limited by the number of beds available and by the duration of the stay by patients in the wards. To these two factors must be added the working capacity of each individual surgical member of the Unit.

(ii) The lay people of Singapore are beginning to realise that surgery has become safer and thus the demands on the skill of the surgeons have increased. As a result of all these factors the Unit capacity has often been overstretched and yet, in spite of this, the Unit could not cope with every case and a waiting list system had to be instituted and this allowed the more acute cases to be dealt with at once and the "cold" cases had to wait their turn. At the rate that the demands for surgical beds were being made on this Unit, I can foresee a much longer waiting list in 1956.

(iii) The total number of admissions into this Unit was 5,677 and the total number of operations performed was 6,462, of these about 3,979 cases were dealt with in the minor theatre. These could have been dealt with in the Out-patients cum Casualty Department if there were staff available in this Department to cope with them, and thus freeing the members of the surgical staff for more serious work."

338. Prof. D. E. C. Mekie, who retired from the Chair of Surgery, University of Malaya, in September, gave 20 years of first-class service in the surgical field to the people in Singapore. The work he carried out in Singapore was held in very high esteem, and it was with regret that his colleagues in the surgical field said good-bye to him on his departure.

339. The graph in the following page indicates the trends in the surgical field over the past three years.

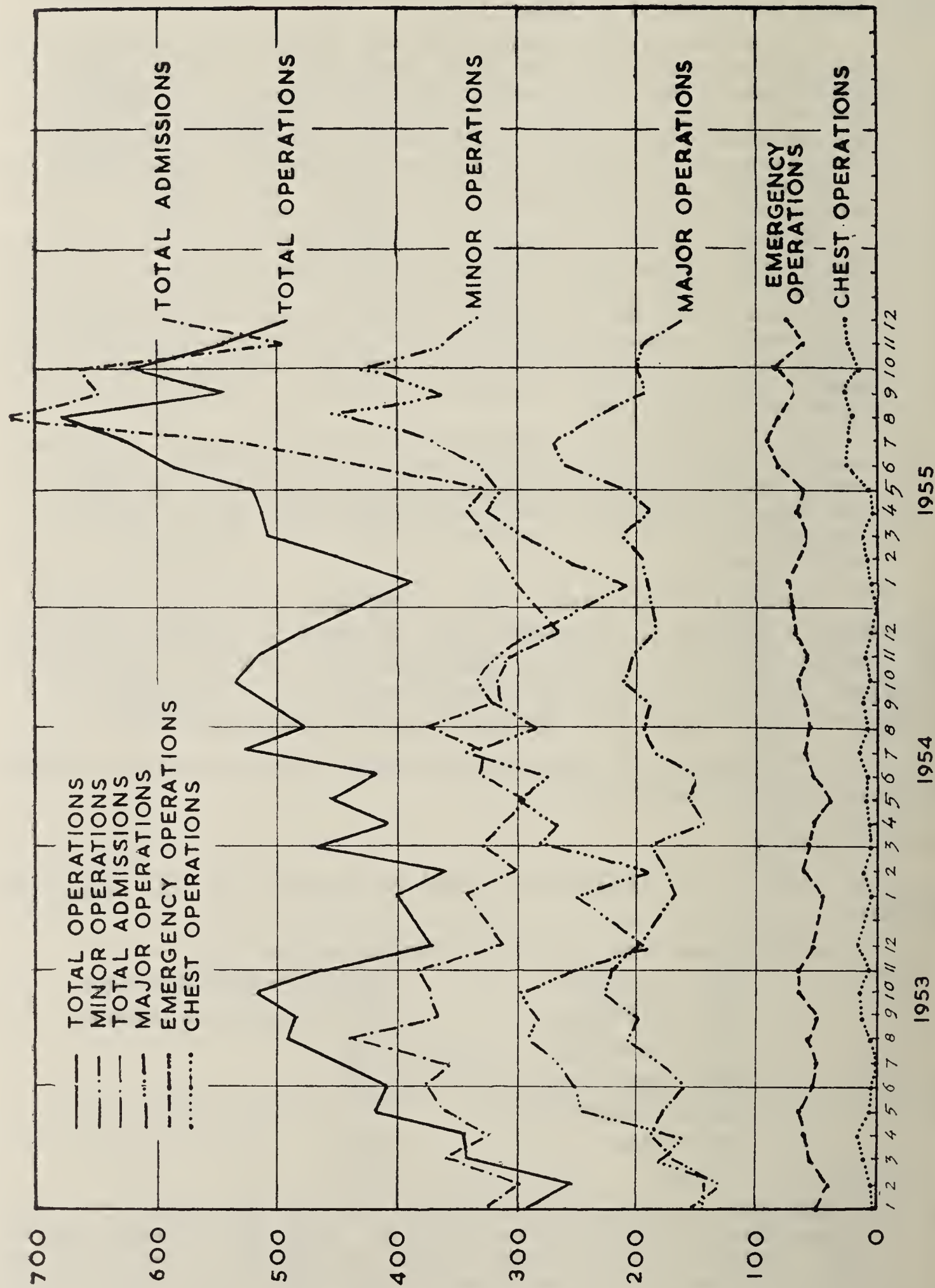
Surgical Unit B

340. Mr. H. M. McGladdery, Head of Surgical Unit 'B', reports as follows:—

(i) "The work done is shown in outline in the figures given:—

Ward 7 Admissions	...	...	3,978	Average bed situation	...	70
Ward 9 Admissions	...	...	2,710	Average bed situation	...	40
Major Operations	...	...	2,229			
Minor Operations	...	...	3,068			
Surgical Out-patients—						
New Cases	...	...	...	1,702		
Repeats	...	...	...	27,361		

(ii) The main change this year in "B" Unit was the opening of the new Theatre Block, including offices, out-patient department, 3 major theatres and 12 first-class and 22 second-class beds. We still have to provide all the beds for in-patients E.N.T. cases, amounting to about 20. Though we have extra theatre space and extra space for beds, we have had to carry on with the same staff and we have not been able to increase the work done on cold cases in the way we have hoped. The waiting period for such conditions as hernias, is about 12 months, and there are still over 400 names on this waiting list. With the present staff it is not possible to keep up with the cold surgical cases coming to the Unit. If we were to concentrate on the cold cases and do them, then major surgical conditions both abdominal and thoracic would have to be abandoned.



(iii) The demand for thoracic surgery is such that it is becoming difficult to meet it. In this branch of surgery we are to some extent limited by the available beds in Tan Tock Seng Hospital. Thoracic surgery makes heavier demands on the Blood Transfusion Service than any other form of surgery. We have had the utmost help and co-operation from the blood bank, but our demands are tending to exceed the supply. There has been an inexplicable increase in the number of emergency operations done. At the beginning of the year we expected about 50 emergency operations each month. This figure has risen to 70 or more. Part of the reason is that acute abdominal conditions seem to come to us in an earlier and operable state, but I do not know the whole reason for the increase.

(iv) This year we have developed in association with the Chief Medical Officer a simple satisfactory method of keeping records. We are able to keep the records in the Unit and at the same time make them easily available to the Chief Medical Officer through a linking of the system of record keeping."

Surgical Unit D

341. The Orthopædic and Traumatic Unit was under the direction of Prof. J. A. P. Cameron until November, 1955, when Prof. Cameron resigned to take up an appointment in Canada. Prof. Cameron has worked for many years in the surgical field both in Singapore and in the Federation, and it was with considerable regret that his resignation was accepted. He was replaced by Mr. A. G. Karlen who was appointed Professor of Orthopædic Surgery in November, 1955.

342. In addition to the accommodation occupied by this Unit at the General Hospital, this division is also responsible for work carried out outside the General Hospital which includes:—

- (1) The St. Andrew's Orthopædic Hospital at Siglap with approximately 120 beds. Here children with bone and joint tuberculosis are treated together with a few cases of poliomyelitis.
- (2) A ward at Middleton Hospital with approximately 40 beds for the treatment of early cases of poliomyelitis.
- (3) A ward at Tan Tock Seng Hospital with approximately 60 beds for adult bone and joint tuberculosis and cases of paraplegia.
- (4) The Red Cross Home at Tanah Merah with 20 beds for crippled children.

343. The working conditions in the Orthopædic and Traumatic Unit are both inadequate and unsatisfactory. Plans for the reconstruction of this section and its division into two separate units have been made and it is hoped that work may be carried out to implement these plans before the end of 1956.

344. During the year a total of 2,267 in-patients were treated in the Orthopædic Unit, an increase on the figure of 1,995 for 1954. In the out-patient section the number of new cases seen was 6,011, a marked increase over the figure of 4,110 in 1954. The repeat cases also showed an increase, the figures being 19,404 in 1955 and 13,772 in 1954.

ST. ANDREW'S ORTHOPÆDIC HOSPITAL, SIGLAP

345. This Hospital for the treatment of children with bone and joint tuberculosis has continued to give the most encouraging results. Visits have been made by the Consultant Orthopædic Staff and the absence of a resident medical officer is keenly felt. It is hoped that an endeavour will be made to appoint such an officer in the near future.

346. The present accommodation at this Hospital is insufficient, and plans have been prepared to double this accommodation and it is hoped that the work will be carried out during 1956.

347. A physiotherapist visits this Hospital daily.

348. During the year there were 132 admissions and 66 patients were discharged.

RED CROSS HOME, TANAH MERAH

349. During the year this Home continued the good work carried out in 1954. The Home Matron, Mrs. McIntosh-White, has continued to develop the facilities and acts as a Home Mother to the children. This is an important feature in the treatment of the Cerebral Palsied and Handicapped child.

350. A close liaison is maintained between the Almoner, the Welfare Services and the Orthopædic Department. Regular visits are made by the Consultant Orthopædic Staff, Physiotherapist and Occupational Therapist.

MIDDLETON HOSPITAL, TAN TOCK SENG HOSPITAL, AND TRAFALGAR HOME

351. These Hospitals were visited by the Orthopædic Staff as in 1954. There is still a big need for additional beds for cases of bone and joint tuberculosis amongst adults, and it is hoped that these will be made available eventually in Tan Tock Seng Hospital.

352. The treatment of leprosy patients has been carried on as before, and the Professor of Orthopædic Surgery has carried out operations on a number of Trafalgar Home patients to relieve contractures and deformities.

PHYSIOTHERAPY DIVISION

353. Miss M. McClymont was in charge of this Department but was on leave between March and December. During her absence Miss M. E. Hawthorne acted as head of the Department.

354. During the year 6,163 new cases were treated by this Department as compared with 2,214 in 1954. The total number of cases treated was 91,484 compared with 31,685 in 1954.

355. Mr. Chong Kow Thye was in charge of the Gymnasium and Remedial Rehabilitation Centre where 875 new cases were treated and a total of 9,633 treatments were carried out.

OCCUPATIONAL THERAPY DIVISION

356. Miss M. M. Thompson was in charge of this Department during 1955.

357. The Occupational Therapy Department is designed for the treatment of remedial cases and for the general (diversional) ward cases. The department patients consist mainly of out-patients who are prescribed treatment by the Orthopædic Clinic, Physiotherapy Department, Almoner and the Gymnasium. The department was also used to some extent by ambulatory ward patients as a hobby room which was valuable in providing an escape for them from the ward atmosphere.

358. During the year 603 new cases were received and the total number treated was 9,555.

EAR, NOSE AND THROAT DEPARTMENT

359. This Department is under the direction of Dr. Au Kee Hock, L.M.S. Singapore.

360. This Unit is still without separate accommodation and is dependent on beds allocated from Surgical Unit 'B'. At the end of the year work had begun on providing a new and separate Ear, Nose and Throat Unit which it is hoped will be opened by the middle of 1956.

361. The following figures indicate how the volume of work has increased compared with the previous two years:—

			<i>New Cases</i>	<i>Repeats</i>	<i>Operations</i>	
					<i>Major</i>	<i>Minor</i>
1953	...	...	5,492	10,806	1,686	1,008
1954	...	...	6,642	12,139	2,042	1,217
1955	...	...	8,675	21,500	2,414	1,807

EYE DEPARTMENT

362. Mr. A. D. Williamson, M.B., CH.B., D.O.M.S., F.R.C.S., is the Ophthalmic Surgeon in charge of this Department and he has summarised the work carried out as follows:—

RETURN OF OPERATIONS FOR THE YEAR 1955

Arruga's operation	...	...	...	32
Simple Intracapsular Extraction	...	...	...	386
Simple Extracapsular Extraction	...	...	...	55
Combined Intracapsular Extraction	...	...	...	50
Combined Extracapsular Extraction	...	...	...	27
Chalazion	...	...	...	668
Cyclodialysis	...	...	...	3
Cyclodiathermy and Retro ciliary Diath.	...	...	...	6
Diathermy Lashes	...	...	...	238
Diathermy Ulcers and Vessels Granuloma	...	...	...	25
Diathermy for Detached Retina	...	...	...	8
Dacryocystorhinostomy	...	...	...	22
Expression	...	...	...	31
Excision of Prolapsed Iris	...	...	...	20
Excision of Prolapsed Iris with purse suture	...	...	...	6
Excision of Sac	..	...	...	17
Enucleation	...	...	...	43
Evisceration	...	...	...	23
Exenteration	...	...	...	2
Foreign body Extraction	...	...	...	241
F.B. Extraction with Magnet	...	...	...	9
Iridectomy	...	...	...	13
Broad Iridectomy	...	...	...	29
Optical Iridectomy	...	...	...	6
Peripheral Iridectomy	...	...	...	2
Iridotomy	...	...	...	5
Iridodialysis	...	...	...	23
Linear Extraction	...	...	...	6
Marginal Sclerectomy	...	...	...	3
Mucous membrane graft	...	...	...	75
Mc. Reynolds (pterygium)	...	...	...	382
Needling	...	...	...	60
Paracentesis	...	...	...	38
Ptosis (Blaskowicz's Repair)	...	...	...	5
Squint	...	...	...	29
Scleral Resection	...	...	...	3
Skin Graft Plastic Repair	...	...	...	11
Tarsorrhaphy	...	...	...	11
Trephine	...	...	...	8
Vectis Extraction	...	...	...	5
Various operation	...	...	...	1,095
Wiener's operation	...	...	...	10
Total				3,733

Total No. of Major Operations ... 907

Total No. of Minor Operations ... 2,826

Total ... 3,733

ANÆSTHETIC UNIT

363. Dr. E. G. Hudson, M.R.C.S., L.R.C.P., F.F.A., the Senior Anæsthetist, was in charge of this Department during the greater part of 1955. In November he left on a World Health Organisation Observer's Course in the United Kingdom and in the United States of America. Till the end of the year Dr. F. W. Pais acted as Head of the Unit.

364. The following table gives an analysis of the anæsthetics administered during 1955:—

<i>Operating Theatre</i>	<i>General</i>	<i>Spinal</i>	<i>Local</i>	<i>Major</i>	<i>Minor</i>	<i>Total</i>
"A" Theatre ...	2,320	629	1,851	2,483	2,317	4,800
"B" Theatre ...	2,133	751	1,293	2,239	1,938	4,177
"D" Theatre ...	2,001	10	2,188	1,386	2,813	4,199
Kandang Kerbau ...	5,087	264	16	1,176	4,191	5,367
E.N.T. Department ...	605	—	610	1,215	—	1,215
Eye Department ...	133	—	—	78	55	133
Dental Department ...	3,603	—	—	32	3,571	3,603
Total ...	15,882	1,654	5,958	8,609	14,885	23,494

It is interesting to note that the comparable total for 1954 was 20,007.

365. During the year, Hexamethonium and Ansolysen were replaced by a Thiophanium Derivative "Arfonad" for the induction of "Controlled Hypotension" for 62 cases, thus offering the surgeon a bloodless field, the patient greater protection from shock and economising in the use of blood.

366. During the year, in conjunction with the Department of Obstetrics and Gynæcology, the paper on the 'Treatment of Eclampsia with Chlorpromazine, Promethazine and Pethidine' was accepted for publication in the *Journal of Obstetrics and Gynæcology of England*. The value of these drugs in the treatment of Tetanus is undergoing investigation in conjunction with the Department of Surgery, and it is hoped that the series will be published soon.

DERMATOLOGY DEPARTMENT

367. The Skin Clinic is one of the out-patient clinics run by Medical Unit II, and is under the direction of Dr. Khoo Oon Teik, M.D., M.R.C.P., F.R.F.P.S.

368. Until August the Clinic enjoyed the services of Lt.-Col. R. D. Menzies, Dermatologist to the British Military Hospital and Lecturer in Dermatology to the University of Malaya, who kindly visited the Clinic in a consultant capacity twice a week.

369. The following figures indicate the attendances at this Clinic during the past year:—

Nationalities	NEW CASES			Total	REPETITIONS			Total
	Male	Female	Child		Male	Female	Child	
Chinese ..	1,433	1,687	1,380	4,500	1,587	2,110	962	4,659
Indians and Pakis- tanis ..	570	165	110	845	576	183	159	918
Malays ..	185	64	85	334	236	62	30	328
Eurasians ..	13	25	8	46	19	23	6	48
Europeans ..	5	6	3	14	4	10	4	18
Others ..	35	19	15	69	29	24	10	63
Total ..	2,241	1,966	1,601	5,808	2,451	2,412	1,171	6,034

Diseases	Male	Female	Child	Total	Male	Female	Child	Total
Mycoses ..	27	10	10	47	28	6	9	43
Impetigo ..	43	42	107	192	26	50	113	189
Prurigo ..	27	40	28	95	25	40	24	89
Psoriasis ..	27	19	6	52	107	52	18	177
Dermatitis ..	447	499	165	1,111	533	567	119	1,219
Eczema ..	410	301	215	926	356	368	206	930
Cheirpompholyx ..	118	74	39	231	111	79	23	213
Lupus Erythematosus	25	21	7	33	28	62	8	98
Lupus Vulgaris ..	5	4	5	14	15	14	13	42
Scabies ..	14	21	31	66	14	11	16	41
Leprosy ..	30	28	9	67	32	52	4	88
Folliculitis ..	45	41	86	172	27	38	53	118
Pruritus ..	37	42	15	94	50	58	6	114
Pyodermia ..	23	17	43	83	7	13	41	61
Podopomphlyx ..	33	34	16	83	40	39	15	94
Vitiligo ..	18	18	14	50	56	87	31	174
Warts ..	19	33	17	69	31	15	11	57
Yaws ..	1	..	..	1	2	1	..	3
Acne Vulgaris ..	24	24	6	54	40	49	1	90
Others ..	868	698	782	2,348	923	811	460	2,194
Total ..	2,241	1,966	1,601	5,808	2,451	2,412	1,171	6,034
Grand Total ..	11,842							

DIETETIC DEPARTMENT

370. The number of patients catered for has increased during the year as compared with the previous year. In January the average daily number was 743 which increased to 895 in December. There was also an increase in the number of patients for whom special diets were ordered, the average number for January being 94 patients daily, and in December this number had risen to 117 patients daily.

371. The average daily cost of feeding the patients was calculated to be as follows:—

			\$	c.
Paying patients (a)	...	...	4	42
Paying patients (b)	...	...	2	75
Children	...	...	1	38
Free	...	...	0	98

Special diet provided per day on average:—

Paying patients (a)	...	...	6
Paying patients (b)	...	...	16
Children	...	...	7
Free	...	...	71

ALMONER'S DEPARTMENT

372. Miss P. K. Harrion, the Senior Almoner, went on leave in March and returned in September. During her absence Miss O. B. Dunkerley was in charge of this Department.

373. During 1955 considerable progress was made in the development of the Almoner's Department in the General Hospital. During the course of the year the number of Almoners increased from five to nine, thus enabling one Almoner to be attached to each of the main Units in the Hospital. This arrangement has proved most satisfactory and has enabled a greater degree of co-operation to be established between the Almoners and the medical and nursing staff.

374. During the latter half of 1955 two of the Almoners attached to the Out-Patient Department were seconded on a part-time basis to the Rural Area Health Service, one dealing with the clinics and outdoor dispensaries on the West side of the island and the other those on the East. With the expansion of medical services in the rural areas it was felt that much could be done in the medical social field and these past few months have indicated that further expansion of the rural almoner service will be necessary in the future.

375. Although the major part of the Almoner's work in the rural areas has been in conjunction with the Outdoor Dispensary Service, the Almoners have not infrequently been called upon to assist patients attending the Maternity and Infant Health Clinics and it is hoped that in the next year it will be possible to effect further expansion in this direction also. In addition the two rural Almoners have been able to initiate some research into the voluntary services existing in their areas and to assist in co-ordinating the work of these bodies with that of the statutory agencies; thus enabling patients to benefit to a greater extent from the welfare facilities available to them in their particular area. The rural almoner service has been organised in conjunction with the out-patient service in the General Hospital. This has proved valuable as many patients, after consultation at the Hospital, are referred for general medical care to the medical officer at their nearest outdoor dispensary. In addition, it has enabled the Almoners to maintain an even standard throughout the out-patient service.

376. During the course of the year the most acute problems continued to be those of the care of the chronically sick and dying patients and of the re-employment of the disabled or handicapped adult.

377. During the past year this Department has continued to maintain a register of certified mentally deficient children. The number on this register now totals 300, and it is becoming increasingly apparent that some provision will have to be made for the care and training of these children. Recently it has been possible, through the co-operation of the Education Department, to arrange for orthopædically crippled children to gain entrance to Government English Schools once they are passed as fit by a medical officer. This will enable these handicapped children to be educated and trained so that they might enjoy an independent adult life in spite of their disablement whereas, in the past, they have been unable to compete in the unskilled labour market and have therefore been condemned to lifelong dependence upon their families or upon Charity.

378. A register of the certified deaf has been kept throughout the year and the Almoner working in the Ear, Nose and Throat Department is actively concerned with the recently established Society for their care. It is hoped that a school for the deaf will be opened in the near future.

379. In the Pædiatric Unit the Almoner has devoted much of her time to the follow up and care of children suffering from pulmonary tuberculosis or malnutrition. A considerable proportion of the Almoner's Samaritan Fund has been spent on financially assisting the parents of these children to provide them with an adequate diet. The help of the Singapore Children's Society's social workers has been much appreciated as they have undertaken a considerable amount of home visiting in these cases.

380. The Almoner's Department has continued to train Almoner Students in co-operation with the University of Malaya, and during 1955 six Government Student Almoners successfully completed their training and have been appointed to the service.

CHAPTER SIXTEEN

OUT-PATIENT DISPENSARY SERVICE

381. This report covers the returns of the following clinics:—

- (1) General Hospital Out-Patient and Casualty Department;
- (2) Kandang Kerbau Out-Door Dispensary;
- (3) Tan Tock Seng Out-Door Dispensary;
- (4) Out-Door Dispensary Service, Rural North and West;
- (5) Paya Lebar Out-Door Dispensary;
- (6) Out-Door Dispensary Service, Rural East;
- (7) The Police Training School.

382. During the year a total of 723,616 attendances were recorded from the above clinics of which 216,311 were new cases and 507,305 were repetitions. Of these approximately 70 per cent were Chinese, 16 per cent Indians, 10 per cent Malays, and the balance of 4 per cent Europeans, Eurasians and other nationalities.

General Hospital

383. The Out-patient and Casualty Department of the General Hospital recorded a total of 509,053 entries from the different sections of the department, made up as follows:—

	NEW CASES			REPETITIONS			Total
	Male	Female	Child	Male	Female	Child	
Out-patients ..	29,593	25,300	29,443	53,203	30,668	33,412	201,619
Casualty ..	24,568	6,196	10,479	24,910	5,933	10,451	82,537
Treat/Dressings ..	..	..	..	103,798	46,421	47,285	197,504
Admissions ..	13,719	6,328	7,346	..	..	..	27,393
Total ..	67,880	37,824	47,268	181,911	83,022	91,148	509,053

384. Below are comparative figures from previous years:—

1953	...	...	...	339,238
1954	...	...	...	466,904
1955	...	...	...	509,053

(a) Out-patient Section

385. 201,619 attendances were recorded as against 176,163 in 1954, an increase of 25,456. One hundred and thirty-five males and 274 females were examined for age assessment for the Labour Department, Commissioner for Registration and the Police. Six hundred and fifty-eight tuberculosis cases were detected and referred to the Tan Tock Seng Hospital.

(b) Casualty Section

386. 82,537 casualties were cleared in 1955 as against 76,481 in 1954, an increase of 6,156.

		Male	Female	Children	Total
Road Accidents	... ..	2,835	423	752	4,010
Exam. for alcohol intoxication	...	967	—	—	967
Rape and other sexual offences	...	30	26	18	74
					<hr/> 5,051 <hr/>

(c) Treatment and Dressing Section

387. This section undertakes the dressing and treatment of the Out-patient Section, Casualty, Skin Clinic, Orthopædic, Surgical and Medical Out-patients of the hospital. During the year 197,504 entries were recorded, an increase of 9,937 from the previous year (187,567).

Admission Room.—27,393 patients were admitted into the hospital.

Ambulance Calls.—4,312 calls were answered during the year.

Laboratory.—14,180 routine specimens were examined during the year.

Urine	...	...	6,442
Blood	...	...	4,582
Fæces	...	...	2,513
Smears	...	...	643
			<hr/>
Total	...	14,180	<hr/>

388. The department is opened from 8 a.m. to 4 p.m. daily except Sundays and holidays. The Casualty Section is opened throughout the day and night. The staff consist of 9 Medical Officers, 3 Nursing Sisters, 10 Nurses, 16 Hospital Assistants, 6 Female Attendants, 29 Male Attendants, 1 Clerk/Typist, 1 Record Searcher, 1 Laboratory Assistant.

Tan Tock Seng Hospital

389. This dispensary is situated at the entrance of the Tan Tock Seng Hospital. It functions only in the morning. In the afternoon, the clinic is occupied by the Leprosy Out-Patient Clinic. Dr. Toh Chiong Hieng, the Medical Officer in charge, assists in the clinic at the General Hospital in the afternoons. The rest of the staff of three Hospital Assistants and three Male Attendants assist in the Leprosy Clinic. During the year 32,298 patients were attended to. The clinic is primarily intended for males and the staff of the Tan Tock Seng Hospital.

Kandang Kerbau Out-Door Dispensary

390. On 10th August, 1955, the new Out-Door Dispensary was opened by Lady Black. This dispensary is situated at the entrance to the new building and offers more modern and spacious accommodation than the old clinic at the entrance to the old hospital. This clinic is intended for women and children. During the year 30,151 women and 34,802 children attended this clinic.

391. A staff of two Lady Medical Officers, two Nurses and a Female Clerk and three Female Attendants run this clinic. Dr. Hannah Tan was the Lady Medical Officer in charge of this clinic during the year.

Out-Door Dispensary Service, Rural North and West

392. This service was established in September 1954. A team consisting of a Medical Officer, a Nurse, a Hospital Assistant and an Attendant visits the Maternity and Child Health Centres as follows:—

Bukit Panjang Clinic—Tuesdays, Thursdays and Saturdays;

Thomson Road Clinic—Mondays and Fridays;

Holland Road Clinic—Wednesdays.

393. During the year the total attendance at each clinic and the average daily attendance were as follows:—

			<i>Total Attendance</i>	<i>Average Daily Attendance</i>
Bukit Panjang	...	...	13,160	87
Thomson Road	...	...	11,251	120
Holland Road	...	...	6,532	126

394. Dr. B. C. John was in charge of this service.

Bukit Timah Out-Door Dispensary

395. This clinic is housed in the Maternity and Child Health Clinic at Bukit Timah. It is staffed by a Hospital Assistant and a District Nurse. The primary function of this clinic is to continue treatment of patients resident in this area who have been discharged from the hospitals. Among the duties, the District Nurse undertakes domiciliary nursing in the homes of patients who are unable to attend the clinic. The Hospital Assistant treats minor conditions and refers the more serious illnesses to the clinic at Bukit Panjang or the General Hospital. The clinic is opened daily.

396. A total of 24,812 attendances was reported during 1955. During the year the Medical Officer, Rural North and West, supervised this clinic.

Paya Lebar Out-Door Dispensary

397. The Paya Lebar Clinic is staffed by a resident Hospital Assistant and two Male Attendants. A Staff Nurse was appointed in November. The Medical Officer in charge of Changi Prison is available from 9.30 a.m. to noon daily. The clinic is also occupied in the afternoon by the School Clinic twice a week. 38,420 patients were seen during the year.

Out-Door Dispensary Service, Rural East

398. The Medical Officer, Changi Prison, Dr. U. d'Rozario, in addition to his duties at Changi Prison, holds afternoon Out-Door Dispensary sessions assisted by the mobile Travelling Dispensary which is staffed by a Hospital Assistant. This service occupies the following Maternity and Child Health Clinics as follows:—

Changi Point Clinic—Mondays and Wednesdays;

Kampong Batak Clinic—Tuesdays and Thursdays;

Gulega Road Clinic—Fridays.

399. During the year, the total attendance at each clinic is shown below with the average attendance per afternoon:—

			<i>Total Attendance</i>	<i>Daily Average Attendance</i>
Changi Point Clinic	...	...	3,487	49
Kampong Batak Clinic	...	...	5,999	76
Gulega Road Clinic	...	...	4,008	98

Changi Prison Staff Clinic

400. This clinic is situated at the entrance to the Changi Prison and is for the convenience of the Prison Staff and their families as well as for Government employees resident in this area. The Medical Officer-in-charge, Changi Prison, assisted by the medical staff of the Prison, attends this clinic. During the year 4,549 patients attended this clinic.

Police Training School Clinic and Hospital

401. The Police Training School Clinic and Hospital is for members of the Police Force. During the year 9,317 patients attended this clinic and 326 recruits were examined.

402. The Police Training School Hospital has accommodation for 12 beds for the treatment of minor conditions. During the year 416 patients were admitted. One death was recorded in the hospital during the year.

403. During the year under review, Dr. C. Marcus, L.M.S. (Singapore), was in charge of the Out-patient Dispensary Service for the whole of Singapore.

CHAPTER SEVENTEEN

TAN TOCK SENG HOSPITAL

404. During the year Dr. C. E. Smith carried out the duties of Medical Superintendent and Chest Physician at this Hospital. He visited Australia under the Colombo Plan as the representative of the Singapore Government and attended the Asian Pacific Tuberculosis Conference and the Australian Medical Congress in Sydney in August 1955.

405. Dr. R. J. Grove-White, Tuberculosis Specialist, represented the Singapore Government at the National Association for the Prevention of Tuberculosis Fourth Commonwealth Health and Tuberculosis Conference in London in June 1955. He later attended the British Tuberculosis Association Annual Conference at Cambridge.

406. During the year satisfactory progress was made in the construction of the first two six-storey blocks which when completed, it is hoped in June 1956, will provide an additional 408 beds—a welcome addition to the present bed strength of 550.

407. Tan Tock Seng Hospital continued its role as the chief Government tuberculosis centre, Dr. R. J. Grove-White and Dr. C. E. Smith being in charge of the two units during the year.

408. In 1955 a further 3,958 new cases were referred to the Hospital for assessment and treatment, 1,587 of which were proved to have active pulmonary tuberculosis. The total number of out-patients in regular attendance is now over 10,000.

409. The main effort by Government has been directed to treating those cases in which the disease can be arrested. At the present time, with the comparatively few beds available, as many as possible of such cases after careful selection according to the various priorities on medical and social grounds, are admitted for a period of hospitalization. When improvement has reached a certain stage, they are discharged to continue treatment as out-patients. Because of lack of more accommodation considerable numbers receive only out-patient treatment. About 80 beds are reserved for the very advanced cases; but as each block of the new hospital is completed, the beds in the existing wards of the old hospital will be released for the admission of these chronic open cases. As most of them come from crowded areas their segregation should prevent the spread of infection to the relatives and friends living in close proximity to them.

410. Crude death rates from pulmonary tuberculosis show a considerable decline since the liberation in 1945, and a striking improvement over pre-war figures. Taking the 1939-41 death average as 100 (2,288 per million), the 1947 index was 68 (1,550), 1950 was 52 (1,193) and 1955 was 43 (989). These figures have been subjected to criticism as a proportion of deaths are still not certified by qualified medical practitioners. It is more than probable, however, that deaths from other causes wrongly entered as pulmonary tuberculosis have outnumbered mistakes the other way round. In consequence this decline can be taken as actual.

411. The morbidity rate is still a matter of speculation. Indirect evidence suggests the incidence of active pulmonary tuberculosis to be about 3 per cent of the population.

412. In response to a request by the Singapore Government for assistance from Australia to carry out a Tuberculosis Survey in Singapore, Sir Harry Wunderley, K.B.E., Director of the Division of Tuberculosis in the Australian Commonwealth Department of Health, visited Singapore from 1st to 11th May, 1955 for a preliminary assessment of requirements. His report is now being considered by the Singapore Government.

ADMISSIONS

Tan Tock Seng Hospital

In-patient

Pulmonary	...	...	...	2,104
Bones and joints	...	...	...	59
Other forms	...	...	...	12

General Hospital

Pulmonary	...	...	...	776
Bones and joints	...	...	...	287
Other forms	...	...	...	339

Orthopædic Hospital

Bones and joints	...	...	...	247
Other forms	...	...	...	Nil

TREATMENT

413. Treatment follows the general accepted principles. Rest is considered essential for the acute toxic cases which are, therefore, given priority for admission.

414. Streptomycin, P.A.S. and I.N.A.H. in some combination or other are the three important drugs used and they are continued for much longer periods than before.

415. Artificial pneumoperitoneum rather than artificial pneumothorax is the method commonly adopted for temporary collapse treatment.

No. of cases

A.P. Induction	...	...	...	35
Re-fills	...	...	...	731
P.P. Induction	...	...	...	860
Re-fills	...	...	...	70,142

416. More and more cases are being referred for thoracic surgery. The modernisation and improvement early in 1955 in the surgical divisions, Civil General Hospital, have proved insufficient to cope with the increased demands for chest surgery with the result that waiting lists have lengthened. In 1955, 290 thoracoplasties and resections were performed as compared with 125 for 1954, 76 for 1953 and 17 for 1952. These cases were operated on by the surgeons in the General Hospital, and two to three weeks later were transferred back to Tan Tock Seng Hospital. There is an arrangement with the Singapore Anti-Tuberculosis Association whereby their patients who are selected for surgery receive their pre- and post-operative treatment at Tan Tock Seng Hospital.

ROTARY TUBERCULOSIS CLINIC

417. This out-patient clinic which was built in 1949 through the generosity of the Rotarians of Singapore has in six years reached the limits of its capacity. Various alterations were made during these years in order to make the most of the available space and to meet the increased demands as a result of the steady increase in the number of patients attending. The figures for the year still show some increase in most of the departments in the clinic but this increase has not been as great as in previous years. The solution lies in de-centralisation and in the establishment of similar clinics in other parts of the Colony.

ALMONER'S DIVISION

418. The Almoner's Department at Tan Tock Seng Hospital has now been in action for six years. In 1949 the first almoner was appointed on a part-time basis. In 1952 there were two almoners working full time and early this year a third almoner was appointed to cover the newly created third medical unit. Now there is a full complement of four almoners. A great debt is owed to the foresight and initiative of the early almoners who firmly established the department on sound medical social work principles and pressed for its expansion to meet the needs of an increasing number of patients. The pressure of work is still great but with additional clerical help next year it should be possible for the almoners to be able to devote more time to those patients who need extensive and understanding casework help for their personal problems, if they are to be able to accept medical advice and carry on with their treatment. The department is so organized now that a vast amount of routine work in connection with the payment of fares and recommendations for T.B. treatment allowances and other Social Welfare allowances is smoothly carried out, leaving the almoners more free to concentrate on cases needing the help of a trained social worker.

419. Patients suffering from a long term disease like tuberculosis need help in many ways to enable them to obtain the best advantage from their treatment and the problems brought to the almoners are as varied as the individual patients with whom they are concerned. The T.B. Treatment Allowance Scheme operated by Social Welfare Department has enabled many patients to give up work without undue hardship falling on their families. Where the family has been used to a fairly high standard of living and the children are being educated, however, then there are sometimes difficulties and the almoner's help is needed. There are also a good number of patients who, for medical reasons, are not eligible for T.B. treatment allowance and who receive the more limited allowances given by the Social Welfare Department. These make many calls on the almoners' resources. Wherever possible, the resources of relatives, friends and other organizations are exploited, and the almoners' funds are by no means inexhaustible. It is essential that the nutrition of not only the patient but also the other members of the family who are in contact with him should be kept at a high level and much of the almoner's time is taken in assuring that this is done, often by helping patients with other requirements so that the bulk of their income can be spent on food. The fact that there is now an assured income for the almoners' fund is of great help.

420. Rest is still the basic treatment for T.B. and this is often extremely difficult for the patient who is a mother of a family. She cannot rest properly either in hospital or at home if she is worried about the care of her children. Where there are no relatives or friends to help it may be necessary to employ

someone to look after the household. The Social Welfare Department provides a domestic allowance in cases where the family income is within the scale, and this has proved most helpful. There are still cases, however, ineligible for Social Welfare aid where extra domestic help has caused real difficulty and the almoner's aid has been most welcome.

421. The pressure on hospital beds has been such that some of the limited accommodation at the community hospitals has been used for T.B. patients and the scheme for providing hot meals at the Khek and Hainanese hospitals continues. So often it is difficult, particularly for T.B. patients, to remain in ordinary lodgings once the nature of their complaint is known and there is always the problem of patients in hospital who no longer need hospital treatment but have no home to which to go. Helping these patients to arrange for their future care makes heavy demands on the almoner's time and resources.

422. Transport difficulties loomed large in the latter part of the year but, with additional financial aid from the Social Welfare Department, patients have been enabled to attend for treatment.

423. One of the greatest problems which continue to face T.B. patients is that of re-employment once they are fit to undertake light work. So many patients were doing heavy labour before they fell ill. Some of these could be and are being trained for skilled jobs but many of them can only tackle the type of repetitive work found on factory assembly lines. Work of this nature is not readily available. Nevertheless, every effort has been made to find suitable employment. In May, the scheme for placing patients on the Disabled Persons Register was revised so that fuller reports on the type of work and working conditions suitable for the individual patient could be submitted by the Chest Physician to the Ministry of Labour who are then better able to find more fitting employment or training. Service departments have been helpful in re-employing patients and the Government has the whole subject under consideration, but there is still much prejudice among employers and fellow workers against those who have suffered from T.B. The scheme whereby some patients are employed in Tan Tock Seng Hospital for six months as hospital servants has proved a most useful means of rehabilitation but it cannot, nor was it meant to, solve the problem of employment. In certain cases, the almoners have helped patients to re-establish their small businesses and every encouragement is given to those who, on their own initiative, find a means of livelihood but need a small financial loan to make a start.

HEALTH VISITORS' DIVISION

424. The staff of the Health Visitors' Department consists of a Health Sister, six Health Visitors and an educated Hospital Servant who helps in clerical duties. They work in close liaison with the Medical Officers and Almoners.

425. Due to shortage of staff, accommodation and transport, the department deals chiefly with tuberculosis cases on social welfare allowances. An average of a hundred such cases per month is referred to us by the Almoner's Department. The contacts of these cases are investigated in the usual way and are dealt with accordingly.

426. Additional work undertaken this year includes the supervision of home conditions of contact children who were fostered out temporarily, and the call up of about 400 cases who were registered in 1950 for a five-year review.

427. Transport difficulties caused by a strike of bus employees during the year hampered our work to a very great extent. In spite of these difficulties, however, the number of visits to homes and the number of contact attendances at the clinic showed a great increase as compared with the previous year:—

	1954	1955
Home Visits	6,331	8,887
Contact Attendances	5,126	9,414

PHYSIOTHERAPY DIVISION

428. The Physiotherapy Department has not been able to continue expanding during 1955. It was pointed out in the 1954 Report that further expansion was only being limited by the amount that one Physiotherapist was capable of doing and that more Physiotherapists were urgently needed.

429. Until May, 1955 there was a full-time Physiotherapist at this Hospital but from May till November there was such a shortage of Physiotherapists that one could be spared for morning sessions only.

430. This meant that a great deal of the work had to be cut out and that patients were being treated in even larger classes than in 1954 which was then described as a most unsatisfactory method of treating chest cases—all of whom need individual treatment to obtain good results. It is hoped that in 1956 an additional Physiotherapist will be allocated to Tan Tock Seng Hospital.

431. The following are the details of treatment given and new patients during 1955:—

	<i>Treatments</i>	<i>New Patients</i>
January	2,925	34
February	2,666	34
March	3,013	36
April	2,935	34
May	2,349	36
June	1,386	22
July	1,750	34
August	2,004	44
September	2,049	30
October	2,004	27
November	1,959	30
December	1,580	18

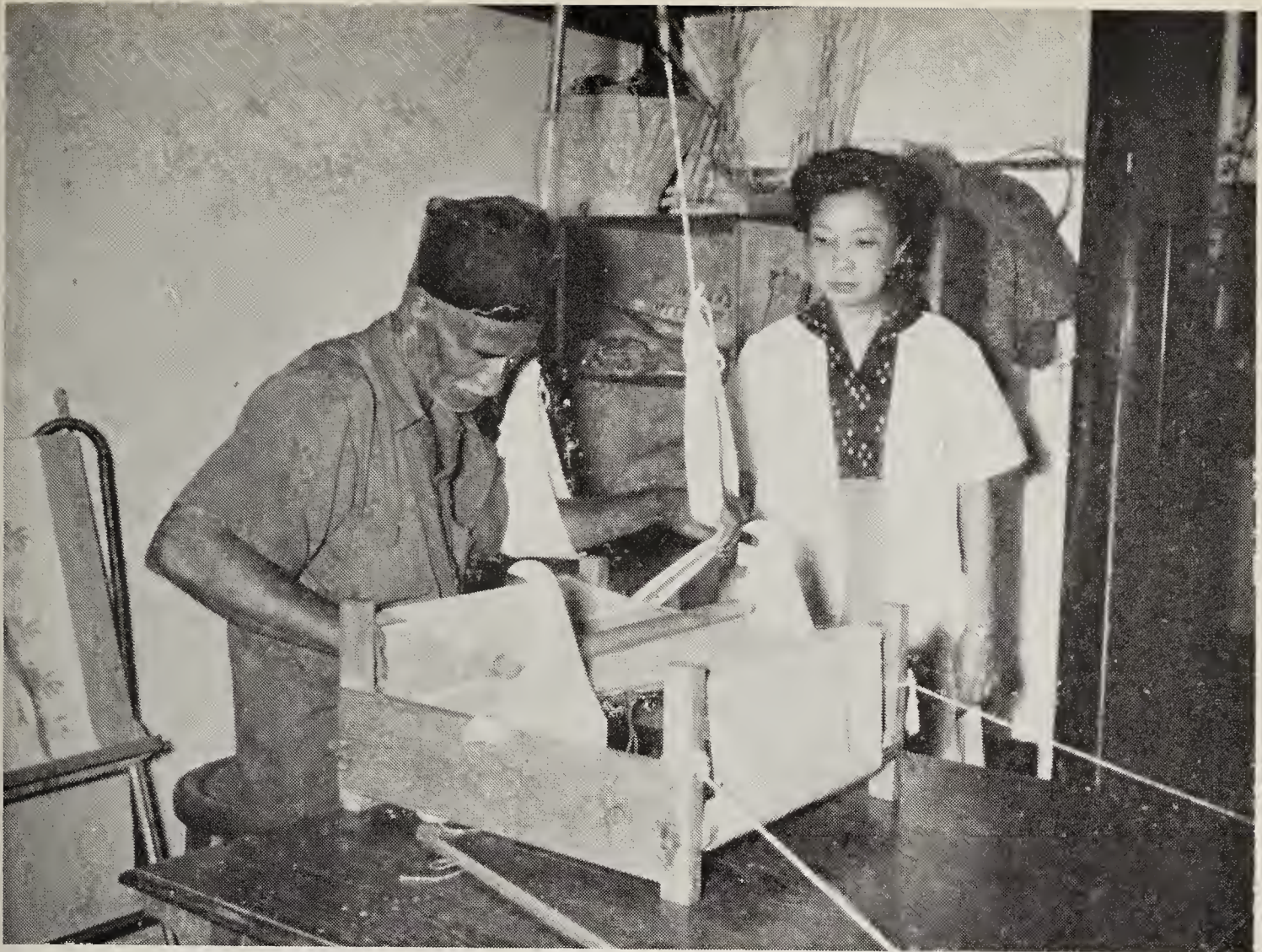
OCCUPATIONAL THERAPY DIVISION

432. As a result of the groundwork done in the previous year there was a gradual but steady increase in the number of patients attending Occupational Therapy during this year.

433. The occupations already established were continued and developed and the following new occupations, rug-making, lampshade-making and woodwork, were introduced.

434. Weekly attendance of the Occupational Therapist at St. Andrew's Orthopædic Hospital and the Tanah Merah Besar Red Cross Children's Home was discontinued in July.

435. Alterations to the second workroom were started in April. This room was ready for the use in October except for certain additional fittings required such as work benches and shelves.



D.I.S.

Occupational Therapy



D.I.S.

Occupational Therapy in the wards



D.I.S.

Ear, Nose and Throat Consultation Room, General Hospital



D.I.S.

Lady Patricia Lennox Boyd visiting one of the wards at Tan Tock Seng Hospital

DIVERSIONAL THERAPY DIVISION

436. The year has been a good one in work done, both by the patients and members of the Unit, although the number of finished articles has been below last year's output, being 6,660 as compared with 7,250 in the previous year. This has been mainly due to a higher standard of work done, more knitted articles, and the fact that many of the patients who are almost ready for discharge, and therefore capable of more work, have been taken over by the Occupational Therapy Department to be taught a trade.

437. The Montessori-trained teacher for children gives lessons on five mornings a week. This is only a temporary measure. Action is being taken by the Education Department to provide a permanent officer as continuity of work is extremely difficult to achieve with voluntary workers.

438. Expenditure on materials during the last year has been \$14,000 as against over \$20,000 in the previous year. This again is due to the higher standard of the work done, and to more time spent on making each article. There was very little spent on equipment during the year, which means that there are many things which will need repairing, replacing, and augmenting during the coming year. Many improvements are contemplated for the smoother working of the unit in general, and to make easier the work of members, and the keeping of stock in good condition. Some of these plans have already been put into operation, and the work tables are now covered with formica tops, which keep the felt cleaner, and makes the cutting out of patterns much quicker and easier.

439. Knitting has become increasingly popular since the Unit decided to employ at a small honorarium a teacher for five mornings a week. As most of the patients are unable to follow a written pattern, it was found that two mornings a week was insufficient to deal with all their problems. Weaving is also becoming popular again since we now have several helpers working in the wards. The embroidery class is progressing extremely well. The felt toys are still favourites with a large number of patients, and work in cutting and distributing these toys is always going on at a pace with which the workers find difficulty to maintain.

440. The sales problems have changed considerably. Whereas previously the main problem was to find a market for the articles made, it is now to find sufficient articles to meet the demands of the regular customers. Patients are making increasingly more toys and knitted garments for themselves, or have found their own markets. This will, in time, make it more expensive to run the Unit, as the sales to the patients are made at the cost of materials only. The Unit has relied on outside sales and the Government grant to cover the cost of transport and the general running.

441. The Annual Exhibition and Sale, held on October the 5th, was a great success, not only for the Unit in Tan Tock Seng but also for the Siglap Branch and for the Occupational Therapy Unit of Trafalgar Home.

RED CROSS LIBRARY

442. Much good work has again been done and a high standard of service has been maintained during the year in the Library, despite the setbacks of losing three very regular helpers. It is hoped to find some new volunteers in the New Year.

443. The English, Malay, Chinese and Tamil trolleys are taken round the wards regularly, each bed is visited and the patient allowed to make his own selection of books and magazines.

DENTAL CLINIC

444. In February of this year it was arranged that the Dental Officer would visit the Hospital twice a week to carry out dental treatment confined mainly to relieving of pain and the clearing up of oral sepsis. Dentures are not provided at present, but it is hoped that a denture service will be made available in 1956.

ROYAL SINGAPORE TUBERCULOSIS CLINIC

445. Nineteen fifty-five was another busy year for the Royal Singapore Tuberculosis Clinic. There was an all-round increase in the work of the various departments, whilst several new features were introduced during the year. A Mobile Treatment Unit, bringing treatment facilities to outlying parts of the Island, was inaugurated in March 1955. By the end of the year some 200 patients were benefitting by this. A 70 mm. X-ray Unit was installed in July, 1955. Facilities for general radiology were extended to include bronchoscopy and barium meal X-rays.

Diagnostic Unit

446. *X-rays*.—The number of X-rays taken during the year was 79,810, giving a daily average of 293. This represents an increase of about 12,600 over the previous year.

447. *Laboratory*.—The Laboratory attached to this Unit did 37,453 Blood Sedimentation Tests and 6,330 hæmatological examinations.

448. *Tuberculin Testing and B.C.G.*—2,427 Mantoux tests and 276 patch tests were performed. B.C.G. vaccination was done on a small scale. In all 492 children were vaccinated.

449. *Insurance Scheme*.—The Insurance Scheme, which was started in July 1953, now has about 8,000 participating members. 28 of these insured persons developed tuberculosis during 1955, making a total of 52 persons since the inception of the scheme.

Treatment Unit

450. *Clinic Attendance*.—The number of persons under active treatment showed an increase over the previous year. The daily patient attendances during the year were 162,106, giving a daily average of 595 as against 537 during the previous year. New patients admitted for treatment were 2,322, while consultation by Physicians of old cases numbered 23,151.

451. *Home Visits*.—The very ill and toxic cases continued to receive domiciliary treatment. The Health Sister made 4,701 home visits for this purpose.

452. *Laboratory*.—The work in the Laboratory showed further increases. Culture examination was carried out on 3,063 sputa, while 18,094 sputa were submitted to smear examination.

453. *Almoner's Department*.—The Almoner and her staff made 2,088 home visits to investigate into the economic and social conditions of patients under treatment and for the follow-up of defaulters. During the year 749 patients received T.B. treatment allowances and another 645 patients received Public Assistance and Sick Allowances from the Department of Social Welfare.

454. *Milk Bar*.—42,940 free meals were served in the Milk Bar attached to the Treatment Unit. This represents an increase of 10,103 over the previous year.



Tong Photo Service

Children suffering from the spastic type of cerebral palsy carrying out exercises to improve muscle co-ordination



Tong Photo Service

A patient suffering from partial paralysis as a result of a spinal tumour working at an upright rug loom. The use of the long shuttle and beater will strengthen the muscles of his upper limbs and the use of pedals the muscles of his lower limbs



Tong Photo Service

Diversional Therapy



Tong Photo Service

Child suffering from cerebral palsy of the spastic type using a treddle fret-saw to improve muscle co-ordination in both his feet and his hands

455. *Rehabilitation Centre*.—30 patients were accepted by the Rehabilitation Centre during 1955, where the following trades were taught:—Embroidery, smocking, dress-making, men's tailoring, book-binding and box-making, printing, weaving and carpentry.

456. *South Winds Rehabilitation Settlement*.—36 patients were referred to the Settlement during 1955 for such sheltered occupations as chicken and pig-rearing and vegetable farming.

457. *Instruction to Schools*.—Instruction to school-children, started in 1954, was continued during 1955. Nearly 2,500 students from 32 schools visited the Clinic. As in the previous years, they were given a brief talk on tuberculosis by one of the Medical Officers, followed by a short film and a conducted tour of the Clinic.

CHAPTER EIGHTEEN

SOCIAL HYGIENE

MIDDLE ROAD HOSPITAL

458. This division is responsible for the treatment and control of venereal diseases in Singapore, and the facilities available are as follows:—

- (i) *Middle Road Hospital*.—A 65-bedded hospital centrally placed in the heart of Singapore and made up of 15 beds for males, 32 beds for females, 8 cots for babies and 10 beds for detention cases referred by the Social Welfare Department, together with male and female out-patient clinics.
- (ii) *Tanjong Pagar Clinic*.—Sited in the Dock area and serving as a male out-patient clinic for both seamen and the local populace.
- (iii) *Travelling Dispensary*.—Serves the rural areas.
- (iv) *Epidemiological Control Service*.—The follow-up of cases, case holding and case finding.
- (v) *Serological Laboratory*.—Carries out both qualitative and quantitative blood tests.

459. During the year one of the wards in Middle Road Hospital was air-conditioned for the treatment of skin diseases. Wood's Light has been installed in the skin clinic and, with the completion of a darkroom for examinations, it will be a valuable aid in the recognition of certain fungal diseases.

460. The year 1955 showed an increase in the total attendances with a daily average of about 625 as compared with 546 in 1954. The in-patients showed a marked fall in number due to the wider use of repository penicillin which only necessitated weekly or daily attendances at the hospital.

461. The following table shows comparative attendances for in-patients and out-patients during the last six years:—

Year		In-patients	Out-patients	Total Attendances
1950	...	2,555	15,349 (3,884 Females)	105,592
1951	...	2,633	15,958 (4,794 „)	124,830
1952	...	2,434	16,002 (4,873 „)	125,150
1953	...	2,807	21,617 (8,618 „)	146,267
1954	...	2,332	23,981 (9,456 „)	162,072
1955 (11 months)	...	1,277	23,867 (9,332 „)	169,970

INCIDENCE OF VENEREAL DISEASES

462. The number of V.D. infections during the last six years is summarised in the following tables: it will be noted that there is a very definite downward trend which is most encouraging:—

Year		Syphilis infections	Other V.D. infections	Total
1950	...	3,137	5,656	8,793
1951	...	2,512	5,275	7,787
1952	...	2,097	4,243	6,340
1953	...	1,925	4,384	6,309
1954	...	1,896	3,895	5,791
1955 (11 months)	...	1,453	3,070	4,523

SYPHILIS

Year		Primary Syphilis	Secondary Syphilis	Early Latent Syphilis	Late Latent Syphilis	Infantile Syphilis
1951	... ..	485	460	319	699	70
1952	... ..	322	223	365	676	59
1953	... ..	194	68	516	676	42
1954	... ..	104	39	418	943	25
1955 (11 months)		79	26	228	871	14

463. There has been a steady fall in the various types of syphilis although Latent syphilis remains about the same over the past six years.

464. Congenital syphilis has fallen from 117 in 1950 to 14 in 1955, a reflection on the excellent work carried out in the ante-natal clinics by the travelling dispensary.

GONORRHŒA

Year		Gonorrhœa	Gonoophth- almia	Gonocompli- cations	Gono-and Non-specific urethritis	Non-specific urethritis
1951	...	2,816	49	90	183	192
1952	...	2,690	60	55	220	217
1953	...	2,843	82	62	221	341
1954	...	2,454	21	14	218	424
1955 (11 months)		2,155	27	17	225	655

465. An increase is again noted in non-specific or non-gonococcal urethritis this year. Nothing definite is still known about the condition, nor as to the exact role played by the antibiotics in its appearance. The tetracycline group of antibiotics is still considered to be the most active form of treatment.

OTHER VENEREAL INFECTION

Year		Lymphogranuloma Venereum	Soft sore	Mixed infections	Granuloma Inguinale
1950	...	143	1,494	472	—
1951	...	223	1,600	487	—
1952	...	194	943	301	—
1953	...	184	961	252	—
1954	...	103	1,083	270	—
1955 (11 months)		67	756	148	—

466. It will be noted that all the above diseases show a downward trend and that no case of granuloma inguinale has been reported in Singapore over the past six years.

INVESTIGATION CASES

467. Non-venereal cases formed 80 per cent of this year's cases. The following table is a breakdown of such cases:—

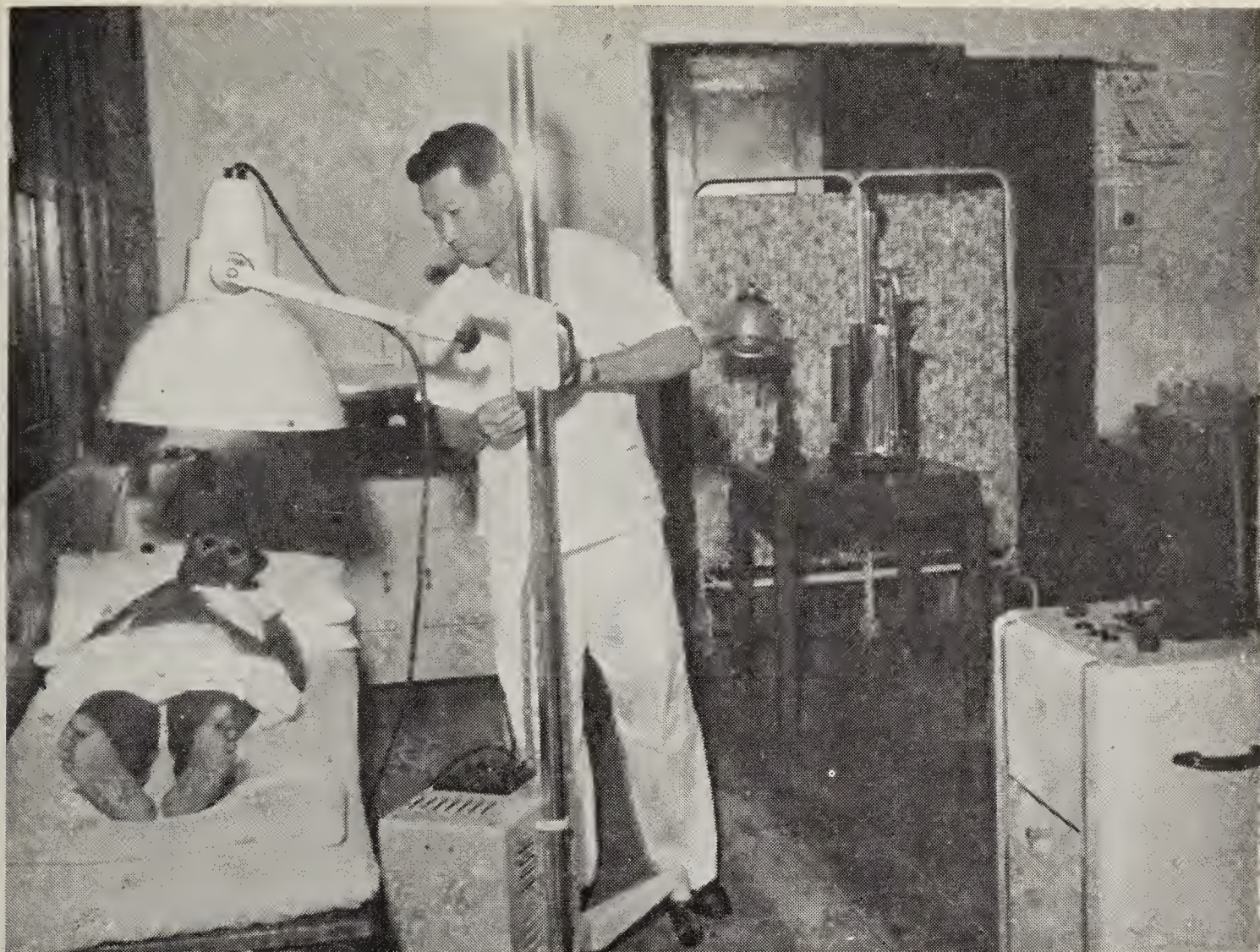
	1953	1954	1955
Apprehensive group including ante-natal and contact cases	9,466	10,391	10,982
Dermatological complaints	3,211	5,412	5,587
Arthritis and Arthralgia	492	419	460
Non-gonococcal urethritis, Cervicitis, Trichomonas infestation, Dysuria, etc. ...	962	942	985
Other genital infestations, Balanitis, Warts, Paraphimosis, Traumatic, Ulcers, Hydroceles, Non-specific epididymitis and sexual complaints	299	372	480
Yaws	253	65	53
Leprosy	84	24	26
Non venereal iritis, conjunctivitis	96	82	108
Miscellaneous	445	483	563
Total ...	15,308	18,190	19,244

TRAVELLING DISPENSARY

468. By means of this service diagnosis and treatment is carried into the rural area and ensures that patients are brought under treatment as early as possible and are not put to the inconvenience and expense of travelling long distances to various hospital centres. It works in close co-operation with the ante-natal clinics and the local community centres.

469. The following table gives an indication of the amount of work done by this very valuable service:—

Clinic	NEW CASES		Ante-natals	V.D. cases	Investigation cases	Total
	Male	Female				
<i>Central Rural:</i>						
Yio Chu Kang ..	1,027	2,076	2,018	81	3,022	3,103
Upper Serangoon ..						
Seletar ..						
Paya Lebar ..						
<i>Rural West:</i>						
Bukit Timah ..	309	1,561	1,353	92	1,778	1,870
Pasir Panjang ..						
Bukit Panjang ..						
Holland Road ..						
Jurong ..						
<i>Rural East:</i>						
Kampong Batak	2,314	2,245	75	2,239	2,314
Changi ..						
Ulu Bedok ..	65	3	62	65
Siglap ..						
Bukit Timah Boys' Home						
Total ..	1,401	5,951	5,616	251	7,101	7,352



D.I.S.

Skin treatment room—Ultra Violet Ray Therapy



D.I.S.

Treatment Room, Female Section, Middle Road Hospital. Intramuscular Penicillin being given to a child patient



D.I.S.

Seamen's Clinic in the Dock area



D.I.S.

New Dispensary, Middle Road Hospital

470. The following table shows the number of old cases who have been discharged from the Social Hygiene Hospital but who remain under treatment and surveillance from the various centres. In the absence of this service it is quite possible that many of these patients would have defaulted:—

<i>Clinic</i>			<i>Syphilis</i>
<i>Central Rural</i>			
Yio Chu Kang	115
Upper Serangoon	...	...
Seletar ...	...	...
<i>Rural West</i>			
Bukit Timah	97
Pasir Panjang	...	...
Bukit Panjang	...	...
Holland Road	...	...
Jurong ...	...	...
<i>Rural East</i>			
Kampong Batak	86
Changi ...	...	...
Ulu Bedok	...	...
Siglap ...	...	...
Total ...			298

471. The following table gives the figures for the ante-natal cases which were examined during the year and the number which was found positive as a result of routine blood tests carried out. The table also indicates the parity of the woman examined at the time of the first examination:—

<i>Nationality</i>	<i>No. of ante-natals</i>	<i>Primipara</i>	<i>Primipara positive</i>	<i>Multi-para</i>	<i>Multi-para positive</i>
Chinese	3,479	561	15	2,918	79
Malayasian	1,435	238	5	1,197	41
Indian and Pakistani	684	128	4	556	16
Others	18	3	—	15	—
Total	5,616	930	24	4,676	136

DERMATOLOGICAL CLINIC

472. This clinic was first started in 1952 and has proved extremely popular. It holds three sessions a week, and the number attending in 1955 was 5,587 as against 5,412 in the previous year.

EPIDEMIOLOGICAL SECTION

473. This service is an essential part of the Social Hygiene division, and is responsible for the follow-up of cases, case holding and case finding, together with propaganda.

474. During 1955 about 7,000 home visits were carried out which resulted in nearly 3,000 patients attending the clinic. The postal service was used in about 4,000 cases, and from these about 1,300 were induced to come to one of the clinics. The total number of family units treated was 3,247.

475. Under the Women and Girls' Protection Ordinance, the Middle Road Hospital was declared a place of detention. The Social Welfare Department referred 74 girls below the age of 18, of whom 10 were found to be infected with venereal diseases. These received full treatment before being transferred to a Social Welfare home, and they subsequently attended periodically for routine examination.

ANTIBIOTIC PROPHYLAXIS

476. During the year 120 new prostitutes were discovered and were registered by the Social Hygiene division. Of this number, 16 were referred by the Military Police. This makes a total of 979 prostitutes on the register.

477. Of the new prostitutes discovered during the year, 45 were found to be infected on examination. Such cases receive the full course of treatment while a weekly prophylactic dose of P.A.M. is given to all other prostitutes. 16,032 such treatments were given and during these visits routine medical examinations were carried out.

SEROLOGICAL LABORATORY

478. This laboratory is situated in the Tanjong Pagar Clinic, Nelson Road. A hospital assistant attached to the laboratory has just returned from a course of training in the United Kingdom on serological techniques.

479. It is proposed to carry out the Price Precipitation Test in future in preference to the Kahn Test, as the margin of error in the former is said to be much less.

EDUCATION

480. Medical students attended and were instructed in the various techniques in the diagnosis and treatment of venereal disease. In addition, lectures were given to nurses, almoners and hospital assistants. Propaganda amongst the general public was carried out by the Epidemiological Service personnel.

481. During the early part of the year 2 social workers sponsored by the World Health Organisation, one of whom came from Indonesia and the other from Burma, were attached to the Social Hygiene branch to study the organisation of the Epidemiological Service.

TREATMENT

482. *Syphilis*.—Penicillin is now firmly established as the drug of choice. Repository penicillin given once daily gives as good results as Aqueous penicillin. Benzathine penicillin or Bicillin new long acting penicillin are used by the travelling dispensary where visits are made weekly to various centres.

483. *Gonorrhœa*.—Penicillin remains the treatment of choice.

484. *Lymphogranuloma*.—The sulphonamides continue to give fairly good results, while aureomycin, terramycin, T.A.B. and antimony are also used.

485. *Soft Sore*.—Sulphonamides are generally preferred as they do not mask syphilis. Streptomycin is also effective.

SEAMEN

486. During the first eleven months of 1955, 1,019 seamen attended this institution as compared with 907 in 1954. The following table gives the breakdown by nationality and the diseases for which they were treated:—

1950	1951	1952	1953	1954	1955 (11 months)				
939	831	864	909	907	1,019				
Nationality	Primary	Tertiary	P. N. I.	Gonorrhœa	Soft Sore	Lympho- granuloma	Mixed infection	Investigation	Total
Chinese	1	3	12	17	14	..	2	90	138
Indians and Pakistanis	2	..	..	3	1	..	..	15	21
Malayasian .. ..	..	1	7	14	1	3	2	34	62
European	1	..	..	32	10	4	..	748	797
Others .. ..	..	..	..	..	..	..	..	1	1
Total ..	4	4	21	66	25	7	4	888	1,019

ROUTINE WORK IN THE CLINIC

—	1951	1952	1953	1954	1955
Blood specimen for K.T. ..	27,752	26,785	27,364	28,892	29,452
C.S.F. and Kahn examination	638	782	679	461	406
Dark Ground specimens ..	4,797	4,072	4,072	4,267	4,091
Smears for Gonorrhœa ..	13,208	15,154	16,012	20,861	23,372
Gonorrhœa for Culture ..	333	473	491	356	157
Agua penicillin G used ..	4,438 mu	4,778 mu	5,455 mu	7,753 mu	4,035
Procain penicillin (P.A.M.) ..	22,349 mu	25,455 mu	27,279 mu	34,398 mu	31,224
Penidure (Bicillin) ..	..	..	..	282 mu	1,392

487. During the year under review Dr. Koh Kim Yam, L.M.S. (Singapore), was in charge of the Social Hygiene service in the Colony.

CHAPTER NINETEEN

MATERNITY AND GYNÆCOLOGY

KANDANG KERBAU HOSPITAL

488. This Hospital, which is essentially a free institution except for a small paying section, is run under a two-unit system. The professorial unit is under the direction of Prof. B. H. Sheares, M.D., L.M.S. (Singapore), F.R.C.O.G. (Lond.), Professor of Obstetrics and Gynæcology, University of Malaya, and the second unit is under the direction of Dr. A. C. Sinha, L.M.S. (Singapore), M.R.C.O.G. (Lond.).

489. Dr. A. Arulanandam, L.M.S. (Singapore), Medical Superintendent, was in office during the whole period under review.

490. Kandang Kerbau Hospital is the only Government institution in the Colony which deals with the therapeutic aspect of maternity and gynæcology. During the year the bed strength has been increased from 240 to 316 beds. Of the total number of beds available, 50 are reserved for gynæcological cases. In addition, the Hospital also provides ante-natal, post-natal and gynæcological out-patient clinics plus a separate clinic for women and children suffering from general ailments.

491. It is also a teaching hospital and students from the University of Malaya receive their training in midwifery and gynæcology. Midwives and nurses are also trained here. The facilities at the Hospital are also used for the training of student almoners.

492. Application has already been made to the Royal College of Obstetricians and Gynæcologists for recognition of this Hospital as a teaching centre for post-graduate work. Recognition has been withheld because of the lack of residential facilities. Plans to remedy this have already been prepared and accommodation should be available in the near future.

493. A midwifery tutor was sent to Singapore in 1952 by the World Health Organisation to help in the training scheme for nurses and midwives and to establish a domiciliary midwifery service which will give experience in home deliveries to students and, at the same time, relieve the overcrowding in the maternity wards. The training scheme has progressed most satisfactorily and the various difficulties experienced have been largely overcome, but deliveries in the home have still not been found practical in spite of the fact that delivery in the Hospital is increasing alarmingly.

494. In 1915 there were 174 deliveries in the Hospital and in 1954 the figure rose to 20,301. In 1955 the figure reached was 22,813, an all-time record.

495. In order to relieve the overcrowding in the maternity wards, an interim measure in the form of an after-care service was instituted at the beginning of May. In this service an average of 630 normal cases per month are delivered in the Hospital and sent home 24 hours after delivery, and they are attended to in their own homes for the next seven days by fully-trained midwives. This service formed a sure foundation for the delivery service as the midwives become familiar with the art of domiciliary techniques and found their way about the city. This latter knowledge is of prime importance in domiciliary work in a city where addresses do not appear of major



D.I.S.

The New Maternity Wing of the Kandang Kerbau Hospital which was opened by Lady Black on 10th August, 1955



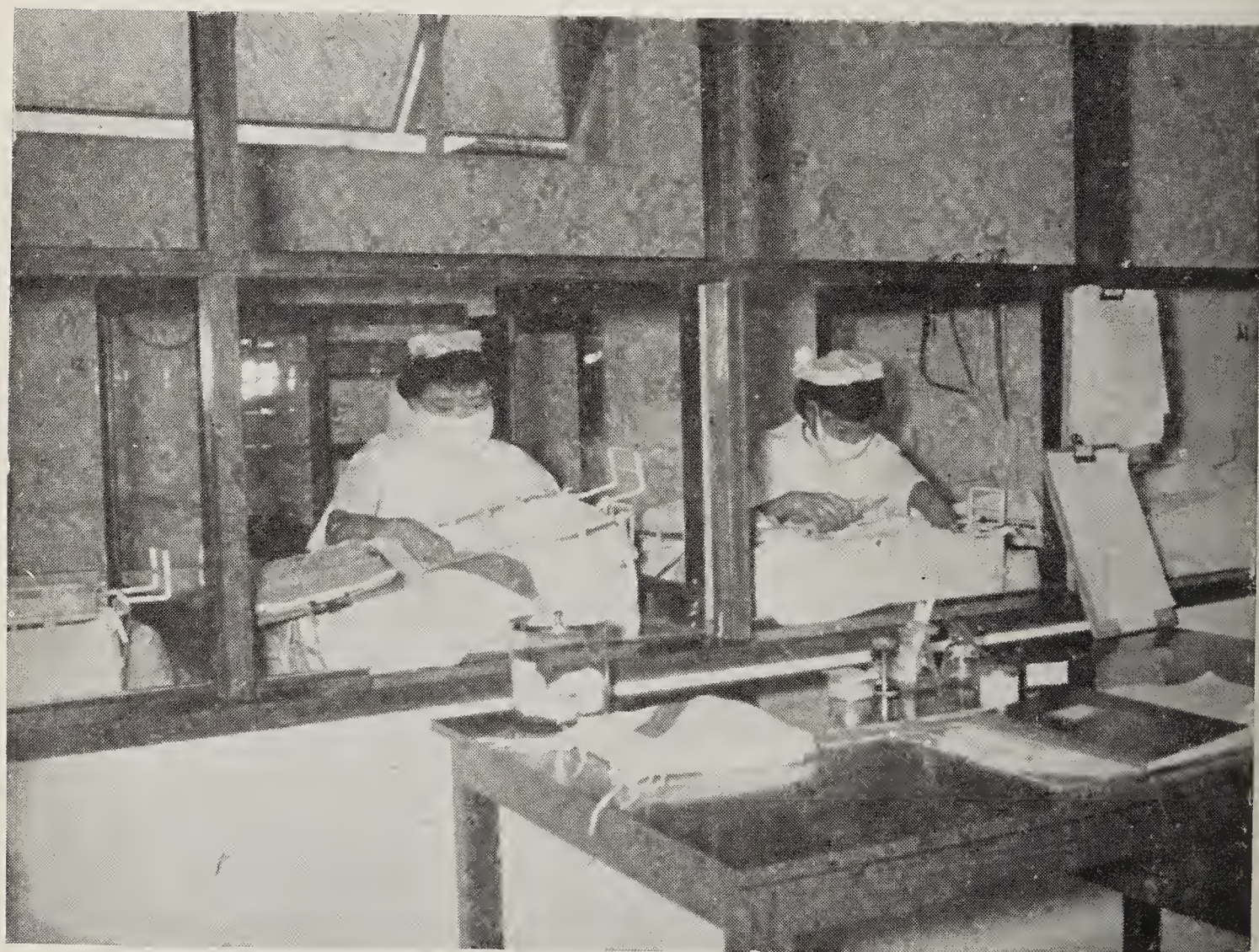
D.I.S.

New home for the Nursing Staff at Kandang Kerbau Hospital



D.I.S.

The Obstetric Theatre at Kandang Kerbau Maternity Hospital



D.I.S.

Premature Baby Unit at Kandang Kerbau Maternity Hospital

importance to many householders. It has been known for them, when moving to another home, to take the number plate from the house in which they have been living and put it on their new abode quite regardless of the consequences.

496. The after-care service became very popular with the mothers and more and more sought this service because of the earlier discharge from hospital, proving that once the baby was safely in their arms home was the place they wished to be in. The 17 midwives in this service make over 4,000 visits each month. Useful as it is, however, the after-care service does not meet the need for experience in domiciliary midwifery, and a start was made in August to provide a full domiciliary service.

497. In August 1955, cases that received ante-natal care in the hospital clinic were carefully selected and their homes visited to assess their suitability for the deliveries to take place there. Considerable difficulties were experienced both on religious grounds and on the grounds of overcrowding, but in spite of this bookings were made and the first baby was delivered under this service in September 1955. Since then a total of 107 babies have been delivered by the domiciliary midwifery service.

498. The Almoner's Department, which was so hopelessly understaffed and manned by one almoner only, has now been enlarged and two additional almoners are now helping to cope with the many problems of the mothers attending the Hospital. A separate report from the Almoner's Department is given at the end of this Chapter.

499. The time was long overdue for the services of a physiotherapist in Kandang Kerbau Hospital. The role of a physiotherapist in the service of a maternity and gynæcological organisation cannot be over-emphasized, but it was only in November this year that we were able to engage the services of a part-time physiotherapist. Owing to a shortage of accommodation and equipment, she is compelled to limit her activities to a few patients in the lying-in wards only. It is hoped, however, that this service will be increased during 1956.

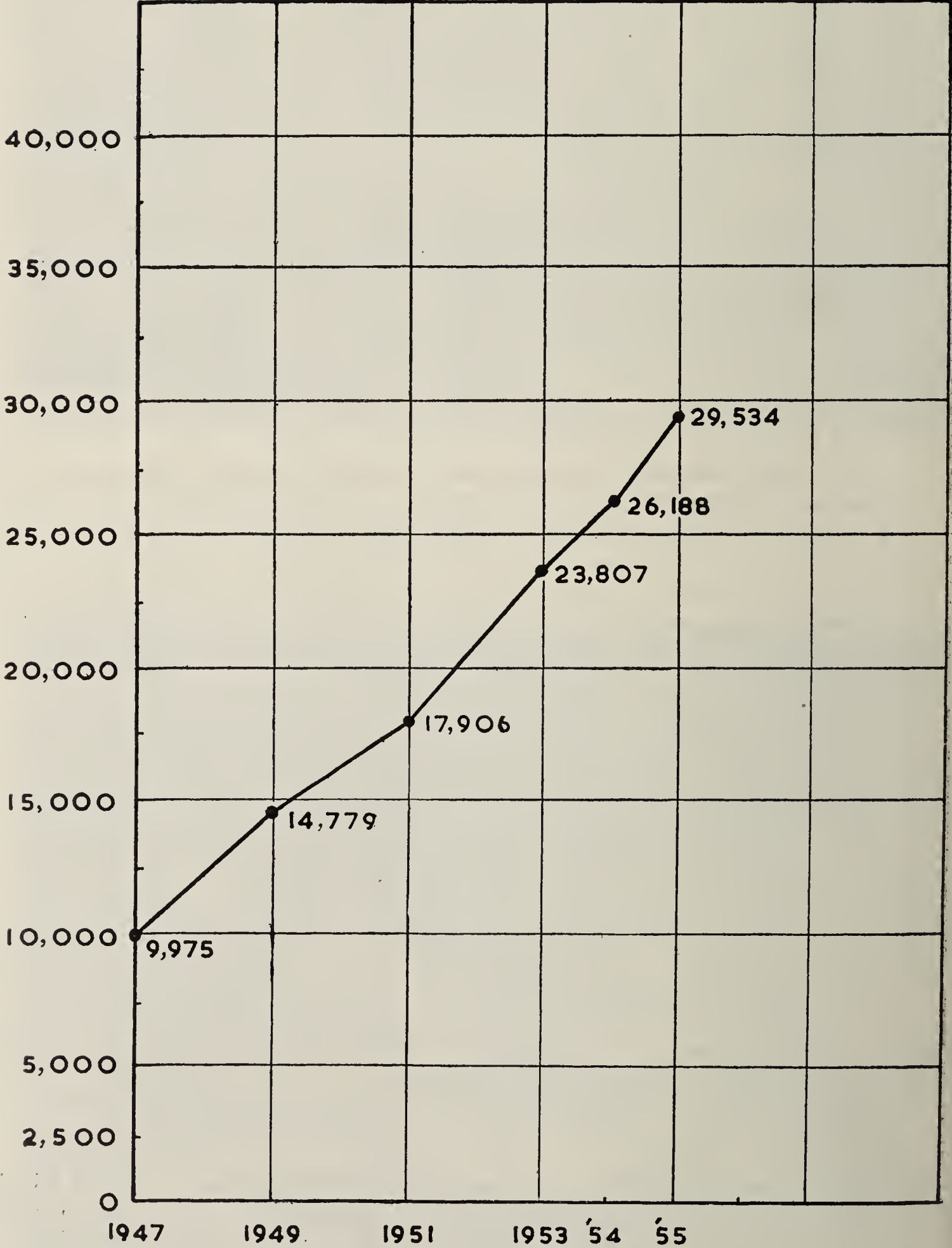
500. Kandang Kerbau Hospital has hitherto been without the services of a pædiatrician. This serious omission has now been rectified and a part-time pædiatrician under the supervision of the Pædiatric Specialist at the General Hospital has been attached to Kandang Kerbau Hospital since July. The filling of this post also conforms with one of the stipulations laid down by the Royal College of Obstetricians and Gynæcologists before recognition will be granted.

501. In spite of the increase in the bed strength from 240 to 316 beds, this Hospital is still short of accommodation to meet the ever-increasing demands of the public for admission. This position should improve considerably after the existing Blocks 'D' and 'E' are remodelled and occupied, when the total bed strength should be in the neighbourhood of 500. It is hoped that the domiciliary midwifery service which has just started will be increasingly popular with the public and also help to relieve the bed situation.

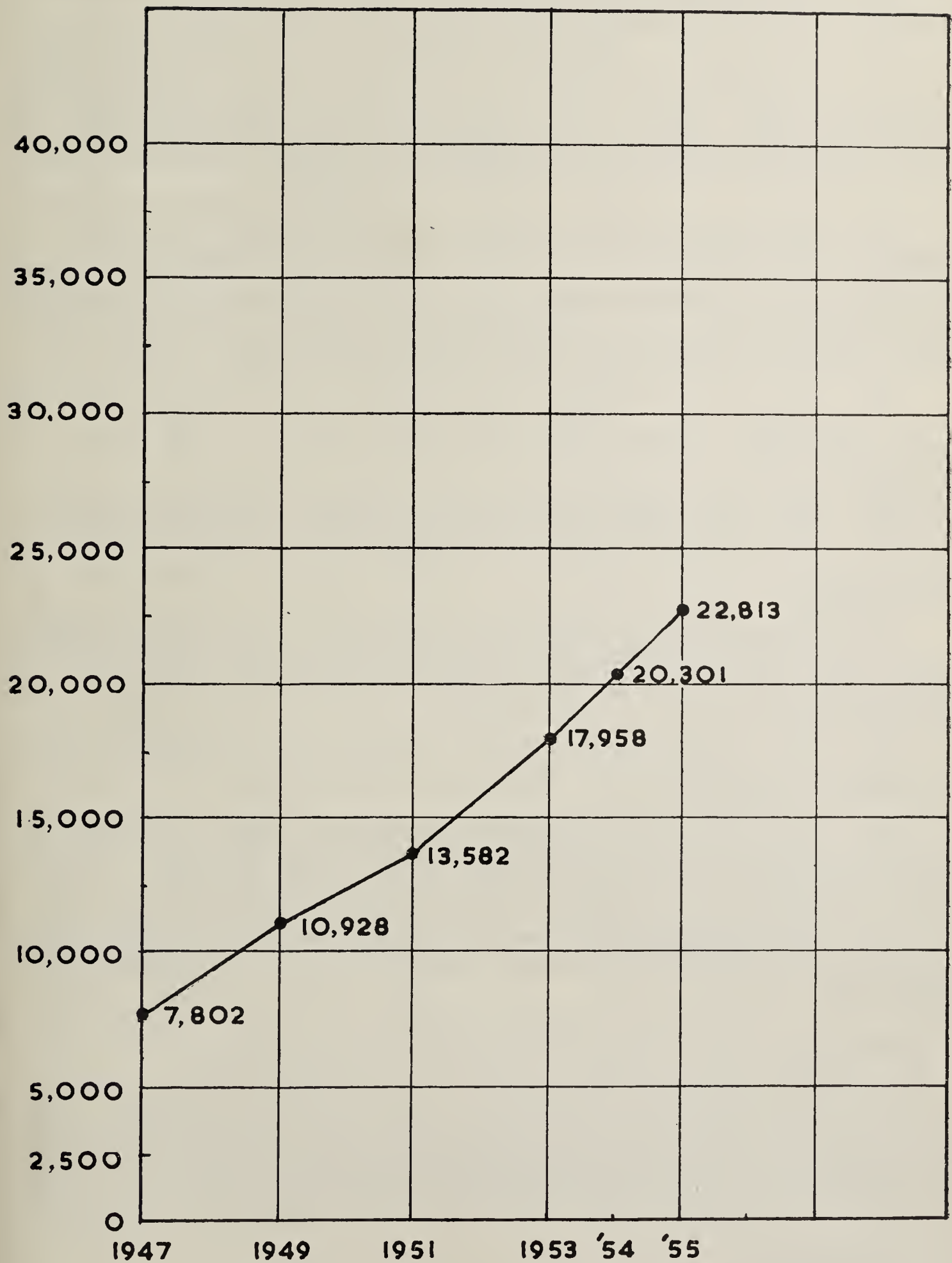
Admissions

502. The total number of admissions for the year was 29,534 of which 25,522 were maternity and 4,012 were gynæcological, as compared with 26,188 during 1954 of which 22,680 were maternity and 3,508 gynæcological cases. The average number of patients was 278 compared with 264 during 1954.

KANDANG KERBAU HOSPITAL
ADMISSIONS



KANDANG KERBAU HOSPITAL DELIVERIES



Maternity

503. The number of admissions for the year was 25,522 and deliveries were 22,813, as against 22,680 admissions with 20,301 deliveries during 1954. Of the total admissions, 23,675 or 92.8 per cent were 3rd class (free) and 1,847 or 7.2 per cent paying cases, as against 20,952 or 92.4 per cent free and 1,728 or 7.6 per cent paying for last year.

504. The number of maternal deaths was 52 or 2.3 per thousand as compared with 2.2 per thousand in 1954.

505. 339 cases were brought in after delivery. Of the total deliveries, 13,614 were normal and 9,199 abnormal as against 17,181 normal and 3,120 abnormal in 1954. During the year there were 731 breech deliveries, 396 forceps deliveries and 368 Cæsarean deliveries as against 671 breech deliveries, 312 forceps and 272 Cæsarean deliveries during 1954.

506. There were six sets of triplets, 250 twins and 550 still births as against six sets of triplets, 221 twins and 531 still births during 1954.

507. A total of 7,572 normal cases were discharged from the Hospital 24 hours after confinement and nursed in their own homes during the period of the puerperium by the staff of the domiciliary after-care service.

508. 107 cases were delivered and nursed in their homes by the staff of the domiciliary delivery service since the inception of this service in September, 1955.

509. Once again the month of October recorded the highest number of births; 2,180 babies were born during the month, an all-time record.

Gynæcological

510. There were 4,012 admissions of which 665 or 16.6 per cent were paying cases and 3,347 or 83.4 per cent free cases, as against 3,508 admissions last year of which 656 or 18.7 per cent were paying and 2,852 or 81.3 per cent free cases.

511. The number of deaths was 22 or .55 per cent as against 20 or .57 per cent for last year.

512. There were 4,947 operations performed of which 3,599 were on in-patients and 1,348 on out-patients as against 4,434 operations of which 3,273 were on in-patients and 1,161 on out-patients for last year.

513. The operations performed were chiefly Cæsareans, hysterectomies, colporrhaphies, dilatation and curettage, cautery of cervix, myomectomies and sterilization.

Ante-Natal and Gynæcological Out-Patients' Department

514. The total number of attendances was 76,829 of which 45,609 were ante-natal and 31,220 gynæcological, as against 70,446 in 1954 of which 41,043 were ante-natal and 29,403 gynæcological. Of the 76,829, 26,619 were new cases and 50,210 repetitions as against 23,751 new cases and 46,695 repetitions for last year. Sterility clinics were held every Sunday.

Post-Natal Clinic

515. The number of mothers who attended the clinic was 11,332 and babies 8,450 as against 9,590 mothers and 7,832 babies for last year.

Women and Children Out-Patients' Department

516. The number of patients seen and treated was 64,953 as against 82,709 for the previous year. Of these 30,151 were women and 34,802 children. Of the 64,953, 18,552 were new cases and 46,401 repetitions, as against 22,067 new cases and 60,642 repetitions last year.

Laboratory

517. Routine laboratory examinations carried out at the Hospital numbered 41,605 as against 30,862 for last year.

X-Ray Department

518. This department dealt with a total of 3,371 patients with 3,563 X-rays as against 2,858 patients with 2,983 X-rays last year.

Hostel for Medical Students

519. The hostel for medical students was only completed towards the end of December. It is intended also to use this hostel for the temporary accommodation of medical officers specialising in obstetrics and gynæcology leading to the M.R.C.O.G. until such time as quarters specially designed for them and now under construction are ready for occupancy.

ALMONER'S REPORT

520. The year 1955 has been one of considerable progress and development in the Almoner's Department. Two additional Almoners have been appointed, bringing the total establishment to three. This makes it possible to provide a much more comprehensive service to the patients. With the opening of the new building adequate office accommodation has been allotted to the Department, making it very much easier to carry out interviews undisturbed and to give the patients privacy to discuss their problems.

521. Every effort has been made to interview all ward patients admitted for complications during their Ante-Natal period or retained in Hospital because of complications in the Post-Natal stage. With the very high birth rate it is obviously impossible to interview normal cases unless especially referred by the medical staff. During these routine interviews a great variety of needs have been discovered, diet inadequacy, overwork, unco-operative mothers-in-law, unwanted children and the desire for knowledge of birth control are some of the many problems confronting the Almoner. Considerable help is available through the Social Welfare Public Assistance Department to sick pregnant women, and those breast-feeding when the family is destitute, but many still remain on a diet very deficient in the necessary proteins. The U.N.I.C.E.F. milk provides a welcome addition to the diet of these pregnant women. It is rich in proteins, but fat-free, so care must be taken in its distribution to ensure it is not used for young babies for whom the Infant Welfare Clinic provide full cream milk in cases of need. There still remains much that could be done in the education of women in the use of health-giving and cheap foods. In spite of this, an ever-increasing family on a fixed wage makes it impossible to expect the mother to get adequate food, and all financial help can only be in the nature of temporary assistance.

522. Family Planning Advice has been very much sought after by patients. The Almoner's Department makes it a practice to in no way influence the patient's decision, but when faced with requests for information or the threat of trying to procure an illegal abortion or of giving the child

away, it is of very great assistance to be able to offer these anxious and overwrought patients the skilled advice of the centres which are free to all those in financial need.

523. To encourage a calm and restful attitude among the patients forced to remain for a long period in hospital, Occupational Therapy has been commenced, the Occupational Therapist from the General Hospital visiting the wards once a week. Many of these patients can neither read nor sew without instructions and spend the long hours of waiting worrying about their home affairs. The provision of an interesting occupation has been of great value to them.

524. In the Gynæcological Department a start has been made to keep a register of all cancer cases and to follow them up with friendly visits to try and help generally with their welfare. Whenever possible the assistance of a private doctor is recruited to help, but this is not always available and there is no general district nursing service.

525. Unmarried mothers need very careful assistance over the long months of their pregnancy. In some cases their condition may be accepted by the family, in others the shame of the condition is very much to the forefront. In all cases, the girl must be given time and guidance to make a wise decision for the future of her child. The Salvation Army in Singapore provides invaluable aid for such young people, offering them shelter before and after confinement together with their baby while making their decisions.

526. It is significant that in all cases where legal aid has been given free at the Almoner's request by charitable-minded lawyers, the girl has won some redress for her difficulties.

527. When the baby cannot remain with its natural mother, or the mother dies and the father renounces all claims to the child, the Almoners have sought the aid of the Singapore Children's Society Advisory Sub-Committee on adoption in the placement of these babies. This Committee, composed of people of all nationalities and with wide experience of social work in Singapore, provides a very valuable advisory service on suitable homes for babies and unwanted children from amongst childless couples. Registration of transfer is always recorded with the Social Welfare Department under the Children and Young Persons Act.

528. In connection with the apparently unwanted child, during 1955 the Almoner's Department has initiated a new development by fostering. It has been found that many parents in the past parted with their children owing to temporary difficulties. When the mother dies, is chronically ill, or suffers from an infectious condition such as tuberculosis or Hansen's disease, she may have to remain in hospital. Even if she is nursed at home it is highly undesirable that the small baby should be with her. The father often despairs of being able to make arrangements on his already severely strained income, and relatives are not always willing to help over an indefinite period. Such compassionate cases cannot normally be cared for in Social Welfare homes nor can all be found room for in voluntary institutions. In view of these difficulties, the parents feel that they have no alternative but to give the child away.

529. The Almoner's Department at the Kandang Kerbau Maternity Hospital, in close co-operation with the Almoner's Departments at Tan Tock Seng Hospital, General Hospital and Trafalgar Home, have now provided a scheme of foster mothers willing to take babies from birth for a fixed sum each month. The Almoners arrange for the natural parents to contribute towards the cost according to their circumstances and meet the balance from

their own Samaritan Funds. This system keeps the child in close touch with its relatives who can visit at any time, fosters their sense of responsibility for their own child and, most important of all, gives the baby the individual care and affection it so desperately needs for its happy development. The baby is initially placed by the Almoner's Department in Kandang Kerbau Maternity Hospital, and close supervision by regular visits to the foster home is carried out to ensure the child is well cared for. Where the mother is a patient of another hospital, the Almoner of that hospital carries out the supervision after the first placement. The foster mother is also encouraged to visit the natural mother in hospital to report on the progress of the baby. Once again all such cases are registered with the Social Welfare Department as transferred children and the co-operation of the Infant Welfare Clinic with its health supervision is requested.

530. A similar scheme is also carried out by the Almoner's Department at the General Hospital for neglected children or where the child needs special care for a period of convalescence which the natural home is unable to provide.

531. The Department has continued to co-operate in the training of student almoners, and is waiting for the qualification of more local girls to expand the services to the patients attending Kandang Kerbau Maternity Hospital along the lines already indicated.

CHAPTER TWENTY

TRAFALGAR HOME

532. The Trafalgar Home is the institution in which infectious cases of Leprosy are treated. It is situated some eight miles from Singapore on the side of the east bank of the Ponggol estuary on good farming land which is farmed by the patients and produces all the vegetables and pork for their own requirements with some excess.

533. The Home has undergone considerable expansion since the war and has developed around the old isolation settlement, the walls of which are still to be seen in the centre. It has been developed on the open village principle and now houses nearly 900 patients.

534. The third stage of development for individual accommodation was completed early in 1955, and all overcrowding was relieved leaving some space for future expansion. The unsatisfactory temporary accommodation has all been vacated and the largest and most unsatisfactory building has been demolished; the concrete floor of this has been converted for use as badminton courts. The other long temporary ward is to be converted for use as a workshop. The former school building situated next to it is to be converted into a store and office for the Occupational Therapist. The old school served very well when the number of children was small but it proved inadequate after the war when the Trafalgar Home was enlarged. The new school built and presented by the Singapore Rotary Club is situated some way from the original building which consequently is not suitable as an extension, although further accommodation will be required in the course of the next year or so.

STAFF

535. Dr. R. J. Grove-White, Tuberculosis Specialist, continued to act as Medical Superintendent throughout most of the year, but Dr. Tan Kwang Hoh, Resident Medical Superintendent, covered the duties of Medical Superintendent during the months of June, July and August when Dr. Grove-White was on leave in the United Kingdom. Dr. J. J. Murugasu, who joined the staff on 8th June, 1955, took over the duties of Resident Medical Superintendent from Dr. Tan in September and he was joined by Dr. E. S. Pillay as Assistant Medical Officer in November 1955.

536. The nursing staff consisted of two Religious Nursing Sisters of the Franciscan Mission of the Divine Motherhood and four Hospital Assistants, the rest of the nursing duties being performed by patient Nursing Aides and Dressers of the Home. There were 12 of the former and 25 of the latter. The rest of the ordinary camp duties were performed by the patients under the supervision of the resident Hospital Assistant in charge.

537. The school which is housed in the building presented by the Singapore Rotary Club is under the supervision of Sister Mary Philippa who is the first full-time qualified Principal. Sister M. Philippa is a Franciscan Sister of the same Order as the Nursing Sisters who work in the Home. Mrs. N. L. Guy, who has had previous experience as a trained school teacher in England, joined the staff as a temporary teacher during the year.

538. It has not been possible to increase the resident staff of the institution during the past year because of lack of accommodation. It is hoped that there will be an increase in the accommodation available before the end of 1956.

STATISTICS AND DISCUSSION

539. During the year 232 patients were admitted. Of these 174 were new positive cases, 50 negative cases were admitted for treatment of ulcers or reaction and eight were former absconded cases who returned voluntarily.

540. While this represents an increase in new cases, the increase in numbers is proportionately very much greater in the early cases found by the Health Visitors, and of those cases with less than one year's history, nearly two-thirds had noticed their lesions for less than six months. The numbers in the second, third, fourth, fifth and later years showed a considerable actual as well as proportionate reduction over the previous three years and it is apparent that our case-finding programme is bearing fruit.

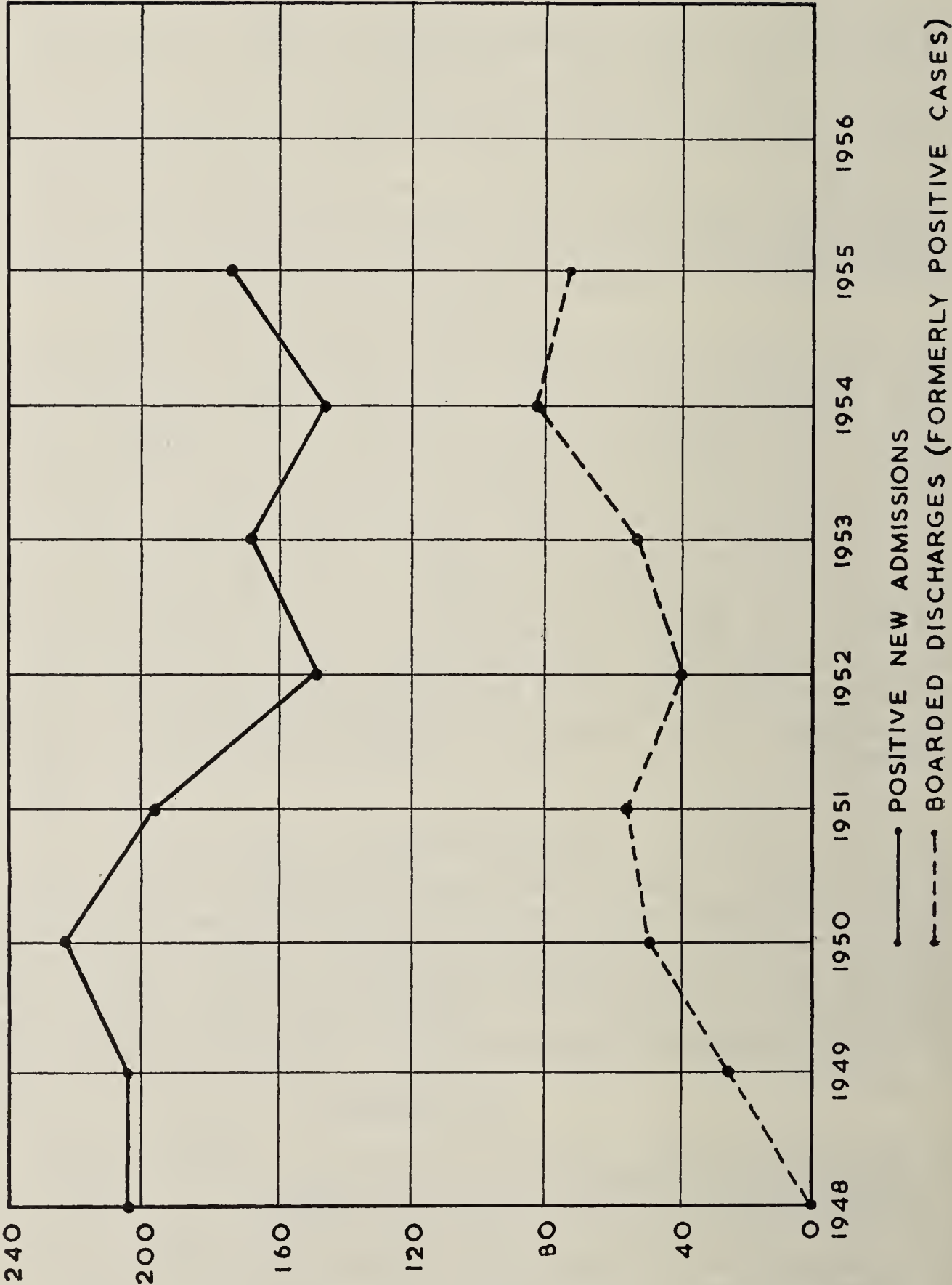
541. The actual discharges from the Home of previously positive cases for 1955 is lower than in 1954 but in considering this figure certain points must be borne in mind. Firstly 12 cases have been retained in the Home as voluntary discharged patients awaiting orthopædic treatment for damaged limbs or the supply of appliances which will make them better able to manage after their discharge or for the treatment of non-leprous conditions such as Tuberculosis. All these cases should go out in a few months' time. Secondly, four cases already discharged are awaiting settlement on land which has been promised by the Land Office for the settlement of ex-patients from the Home, but the arrangements are not yet quite complete. These also, we hope, will leave us in a few weeks' time. When these factors are borne in mind the corrected figure will be approximately the same as last year's and the satisfactory trend noticed in the figures of the past few years is in fact continuing.

542. One of the most satisfactory features of the year's work has been the way in which the Orthopædic Unit in General Hospital has set about dealing with the backlog of cases requiring tendon transplantation, excision of ulcers in weight-bearing areas, and general mobilisation and improvement of function in chronically disabled patients. This has resulted in very great progress, and the administration of the Home is much indebted to Mr. W. A. Watt-Maney and to Mr. A. G. Karlen, who is the present chief of the Orthopædic Department, for their valuable assistance during the year.

STATISTICS

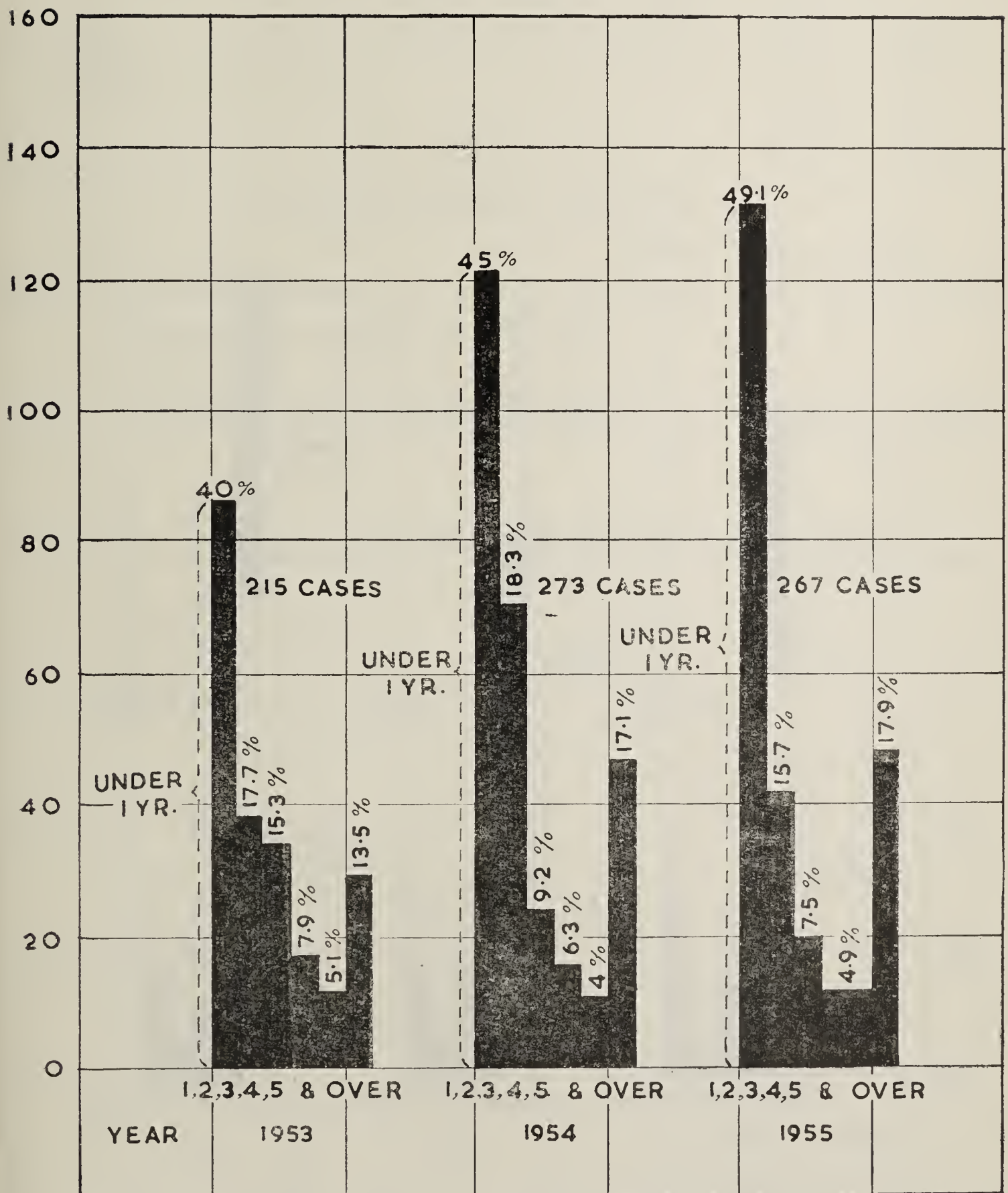
	<i>Males</i>	<i>Females</i>	<i>Total</i>
Total patients remaining on 31st December, 1954 ...	573	252	825
Admission from 1st January, 1955 to 31st December, 1955 ...	170	62	232
Discharge from 1st January, 1955 to 31st December, 1955 ...	91	44	135
Absconsion from 1st January, 1955 to 31st December, 1955 ...	19	5	24
Transfer to other hospitals from 1st January, 1955 to 31st December, 1955 ...	50	24	74
Transfer from other hospitals from 1st January, 1955 to 31st December, 1955 ...	48	22	70
Deaths from 1st January, 1955 to 31st December, 1955 ...	2	3	5
Total patients remaining on 31st December, 1955 ...	629	260	889

TRAFALGAR HOME. SINGAPORE.
POSITIVE NEW ADMISSIONS AND DISCHARGES OF FORMERLY POSITIVE CASES.



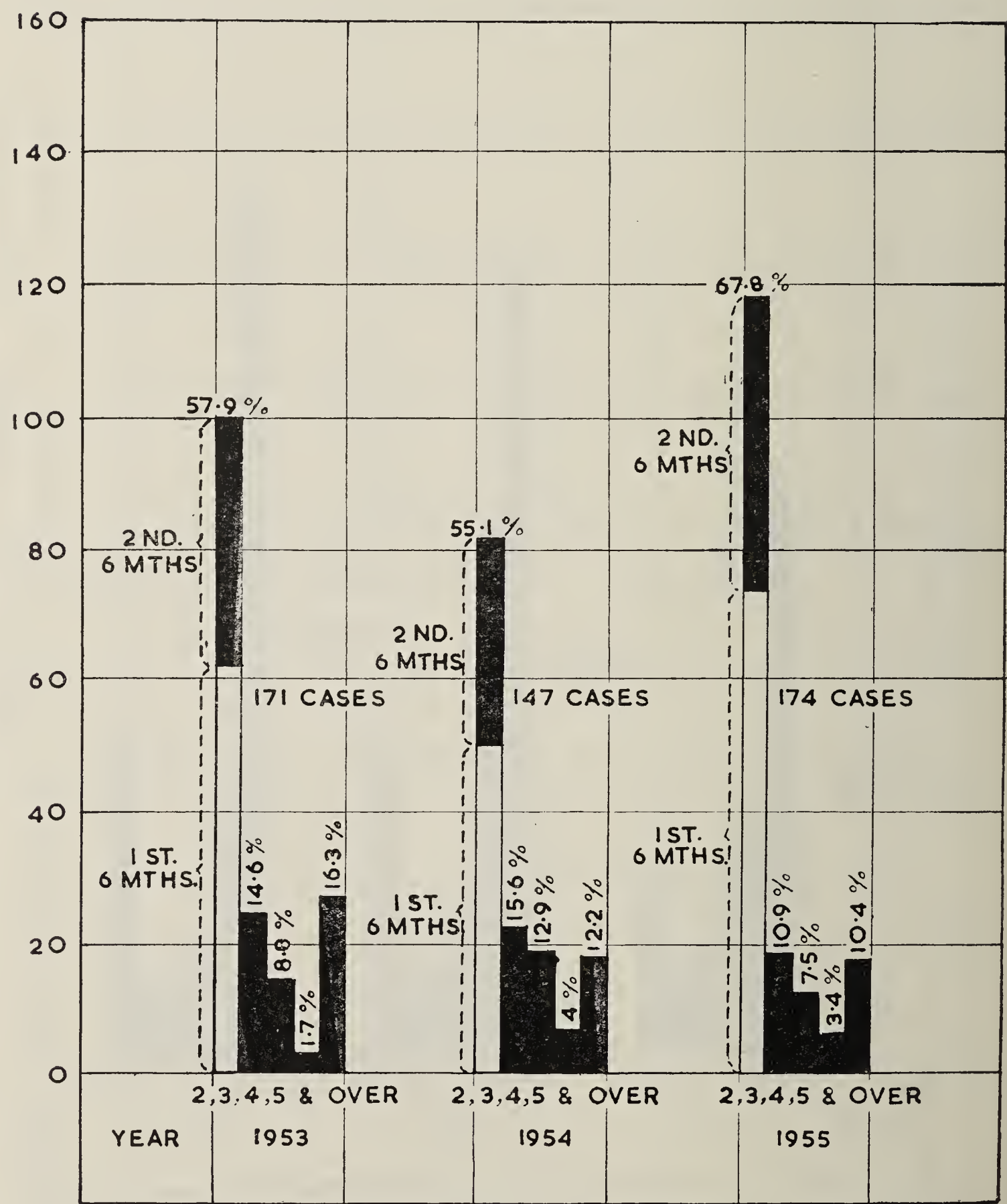
STATED DURATION OF DISEASE (PRIOR TO SEEKING TREATMENT) SINGAPORE.

NEWLY DISCOVERED NON-INFECTIOUS (NEGATIVE SMEAR)
LEPROSY CASES.



STATED DURATION OF DISEASE
(PRIOR TO SEEKING TREATMENT)
TRAFALGAR HOME
SINGAPORE.

NEWLY DISCOVERED POSITIVE CASES.



Total Patients Remaining on 31st December, 1955—Made up as follows:—

<i>Males</i>		<i>Females</i>		
<i>Adults</i>	<i>Children</i>	<i>Adults</i>	<i>Children</i>	<i>Total</i>
563	66	212	48	889

ADMISSIONS DURING THE YEAR 1955—CLASSIFIED IN RACES

		<i>Chinese</i>		<i>Indians and Pakistanis</i>		<i>Malays</i>		<i>Eurasians</i>		<i>Total</i>		<i>Grand Total</i>	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
Adults	...	118	39	20	1	5	2	—	—	143	42	185	
Children	...	25	18	—	—	2	2	—	—	27	20	47	
											<hr/>	<hr/>	
											170	62	232

ADMISSIONS DURING THE YEAR 1955

	<i>Males</i>	<i>Females</i>	<i>Total</i>
(a) New positive cases	...	...	134
(b) Negative cases admitted for treatment of ulcers and reaction	...	...	29
(c) Absconded cases returned (includes 3 former abscondee of previous years)	7	1	8
	<u>170</u>	<u>62</u>	<u>232</u>

DISCHARGES DURING THE YEAR 1955

<i>Males</i>		<i>Females</i>		
<i>Adults</i>	<i>Children</i>	<i>Adults</i>	<i>Children</i>	<i>Total</i>
77	14	36	8	135

DISCHARGES—1955—CLASSIFIED AS:

	<i>Males</i>	<i>Females</i>	<i>Total</i>
(a) Formerly positive cases discharged by Board—1955	57	17	74
(b) Formerly positive cases discharged by Board—previous years	12	8	20
(c) Negative cases on admission	22	19	41
	<u>91</u>	<u>44</u>	<u>135</u>
Net Increase during 1955	...	...	97

ADMISSIONS—1955 (NEW POSITIVE CASES)

1955	174
1954	...	...	...	147

DISCHARGES (FORMERLY POSITIVE CASES DISCHARGED BY BOARD)

1955	...	...	74 out of 94 cases boarded
1954	...	...	84 out of 115 cases boarded

ABSCONSION—1955

1955	...	...	24 (including 8 former abscondee of previous years who had returned)
1954	...	...	26

8 Leprosy Medical Boards were held in the year 1955.

21 formerly positive abscondee of previous years were examined by the Board and officially discharged.

TREATMENT

543. During the year the standard treatment for straightforward cases of Leprosy consisted of Dapsone tablets taken by mouth and to this was later added Isoniazid tablets, following a discussion with Dr. Molesworth of Sungei Buloh, on the efficacy of combined therapy. There is no noticeable change in the efficacy between Dapsone taken orally and Dapsone taken by injection, and no evidence that the patients are not taking the drugs in the doses recommended. Dapsone tablets are also being used increasingly in the out-patients department where follow-up treatment with oral Dapsone need only necessitate one visit per month or even per quarter in suitable cases against the weekly visits with injection therapy.

544. Lepra reaction is still the cause of the majority of cases of severe illness in the Camp and a small number of patients who are specially prone to reaction are responsible for the greater part of the medical and nursing load in the hospital wards. Stibophen and Anthiomaline are still the first line of treatment but Cortisone has been used extensively during the year. Its use in cases with atypical pathology has been most valuable, but in treating cases of frank lepromatous leprosy it has been much less satisfactory. Search for intercurrent infections and control of intercurrent tuberculosis with Streptomycin has sometimes yielded satisfactory results but there are still many cases of reaction which cannot be satisfactorily controlled. In December information arrived that a small stock of Colchicoside from Roussel Laboratories in Paris was on its way. This drug has been used with some success by workers from the Pasteur Institute and it is hoped that in the New Year a small trial will prove possible in Singapore.

545. A very satisfactory arrangement with Sungei Buloh for the fitting of artificial limbs has continued during the year and six cases have been sent up. It is hoped during the coming year to increase the number who can be fitted with appliances.

546. Orthopædic treatment has made considerable progress during the year and Mr. Watt-Maney, the Registrar from the Orthopædic Department at the General Hospital, has been responsible for the introduction of various forms of treatment which have proved most successful.

DENTAL TREATMENT

547. Commencing February this year, the Dental Officer in charge of Chronic Sick visits Trafalgar Home three days a week (Monday, Wednesday and Saturday). Apart from treatment of emergency dental cases, full dental treatment is given to all inmates of the Home who require treatment. At present no dentures are being provided for the patients. It is hoped that a denture service will be instituted in the very near future—most probably next year.

TREATMENT RECORD AS FROM FEBRUARY 21ST—DECEMBER 31ST

Total Attended	Exam.	Emergency	Dressing	Fillings				Exts.		Scaling	Treatment Completed
				Amalgam	Silicate	Zno	Cement	Decid	Perm.		
2,048	294	262	71	872	112	174	5	63	933	115	134

Remarks.—Of 294 patients examined, 97 require dentures. So far 15 inmates refused treatment.

ALMONER'S REPORT

548. The Almoner, Miss Doris E Browne, reports as follows:—

(i) During the past year the work of the Almoner's Department has continued to expand as the patients are increasingly more aware of the Almoner's work in the Home. This is partly due to the fact that on admission the patient is told that the Almoner is there to help with any private worry.

(ii) It has been found that many patients on entering Trafalgar Home do not realise the full implications of their admission, consequently it is beneficial to explain clearly and simply the reasons for admission and how the doctors can tell if the patient is infectious, under what circumstances the patient will be discharged, how work can be obtained in Trafalgar Home, and the facilities available in the Home. The patients can then discuss their affairs with the Almoner and plan accordingly. In very many cases it is necessary to request the Social Welfare Department to investigate the family circumstances straightaway, especially when the bread-winner has been admitted.

(iii) Of the 94 formerly positive cases discharged by the Leprosy Board in 1955, 74 have left the Home, but there has been no lessening of the difficulties in obtaining work for these people. While an employer may be willing to take on an ex-patient, he often finds that the other employees object. It is very demoralising for patients who leave Trafalgar Home with hopes of settling down to normal life in the community to find that they are unable to obtain work. Many of these patients have no visible signs of the disease, but once they admit that they have been discharged from the Trafalgar Home they find that no work is available to them. This is a bitter revelation to many of them and only by educating the public to the fact that discharged patients are not infectious can we hope to avoid this distressing experience.

(iv) A number of patients receive an allowance from the Social Welfare Department when first discharged while they look for work. This is a great help as a patient outside may hear of work in the neighbourhood, whereas if he stays on in the Home this is less likely to occur.

(v) Eight children were born to in-patients of Trafalgar Home this year and satisfactory arrangements were made for their care. In the absence of a suitable home with a member of the family, a foster home was arranged by the Almoner at Kandang Kerbau Maternity Hospital, who is in a better position to find suitable foster mothers among patients who attend there and who may have lost a child of their own or are unable to have one. When the arrangements are completed the Almoner, Trafalgar Home, takes over the responsibility for payment and the care of the child is supervised by the Trafalgar Home Health Sister and her staff.

(vi) The Almoner's work in the Out-patient Clinic has increased as all old patients have now been interviewed and assistance and help given when and where possible.

(vii) During the past year the Almoner has paid for the education of 20 out-patient children who are either continuing their studies begun in the Rotary School, Trafalgar Home, or children who show aptitude and their parents are unable to afford fees. These fees cover private schools, night schools, etc.

(viii) The Singapore Leprosy Relief Association has once more been of the greatest assistance to the Almoner in providing gifts in kind and money to aid the Almoner in her work.

(ix) During the past year the Department has become firmly established as part of the services to leprosy patients. Six student Almoners have worked in the Almoner Department for periods of their practical training. The students have benefitted from the knowledge gained, five of them are now working in different fields of Medico-social work and have taken with them enthusiasm for the work; a good understanding of the implications of the disease and the effect on the families concerned. They will help to spread their knowledge of what can be done in this field to the Community in general.

(x) The Almoners' work is greatly eased by the co-operation of the Doctors, Health Sister, Nursing Sisters and staff, and it is due to this harmony that the Department can proceed smoothly."

HEALTH SISTER'S REPORT

549. Sister D. E. M. Kiddle reports as follows:—

"(i) The Skin Clinic (Leprosy Out-patients Department) has operated as before from the Out-patients Department of Tan Tock Seng Hospital on five afternoons a week from 1 p.m. to 4 p.m. The attendance has been good considering the difficulties experienced by patients in transportation owing to long bus strikes. Many patients have been given longer periods between attendances and oral medicine to take at home has been given in greater quantities to help accommodate them. The number of attendances for 1955 (up to December 16th) is 24,373. The voluntary attendance of contacts of patients has been good and 2,906 have attended for checks and rechecks. Some contacts have refused at times to attend clinic but these have been visited in their homes by the Health Visiting Staff of the Clinic and many have been persuaded to come after the need for checking has been explained to them. Those still refusing have been left cards of instructions which have been read to them so that they will know where to come if the need should arise or they require help of any kind. Contacts—children and others—who have been found to require other medical care or help during their checks at the Clinic have been directed elsewhere for their special needs. The atmosphere of friendly co-operation between staff and patients is very marked and the patients' confidence in the staff even when they have returned for treatment after being posted as abscondee, is one of trust and lack of fear of their reception.

(ii) All new positive cases have Lepromin and Mantoux Tests. Those that are not done in the Clinic are tested by the Health Sister at Trafalgar Home. An up-to-date complete list has been made of all patients receiving these tests during the year 1955.

(iii) Domiciliary work has continued and increase of staff for this work has proved most satisfactory, as well as visiting old cases who are defaulting occasionally, and those on routine visits. All new patients' homes and places of living have been visited and the living conditions recorded on their Home Visit cards as well as maps to help the new Health Visitors in those places which have been found difficult to locate and which take many hours of walking and enquiry to track them down.

(iv) The fostered babies born to patients in the Trafalgar Home have now come under the care of the Visiting Staff of the Clinic who visit them in their foster homes and give advice to the foster parents and get them to attend an Infant Health Clinic if possible. This gives an added relationship between the Health Visitor and the true parent in the Trafalgar Home. Close co-operation between the Almoner's Department and Clinic Staff is very well maintained, which makes a most happy relationship between both these departments and the patients.

(v) Sister (Mrs.) Bowyer-Johnson resigned from the Clinic staff on 31st July, 1955 and her duties were taken over by Sister (Mrs.) D. E. M. Kiddle, M.B.E. Staff Nurse Kow joined the Clinic staff on loan from the Tan Tock Seng Hospital in January 1955 and was transferred to the Trafalgar Home staff as Staff Health Visitor in August 1955. One whole-time trained Assistant Nurse continues on the staff and a part-time Assistant Nurse helps in the Clinic in the afternoons."

OUT-PATIENTS ON TREATMENT

On Sulphone Injections	...	...	...	302 patients
On Sulphetrone Injections	...	...	...	3 „
On Hydnocarpus Injections	...	...	...	1 „
On Dapsone Tablets	...	...	...	975 „
On Sulphetrone Tablets	...	...	...	6 „
On Tebacyl Tablets (Thiosemicarbarsons)	...	...	...	1 „
On Diasone Tablets	...	...	...	1 „
Total				1,289

New contacts attending clinic	...	...	...	1,728
Old contacts attending clinic	...	...	...	1,178
Domiciliary Visits	...	...	...	977
Domiciliary Revisits	...	...	...	935
New contacts visited	...	...	...	2,481
Old contacts visited	...	...	...	1,638
New cases attending clinic	...	...	...	258
Old cases attending clinic	...	...	...	984
Patients refund	...	...	...	47

OCCUPATIONAL THERAPY

550. During the past year Occupational Therapy has gone well ahead and great progress has been made. An increasing number of patients has been working steadily at those crafts which have been found most suitable to employ in the Home, such as basket work, weaving, rug-making and needle-work. The standard of their work is high, comparing favourably with some goods available in the outside market, so it has not been difficult to find a ready sale for completed work which is all sterilised before despatch. The basket work has been particularly successful, and office type baskets have been supplied to various Government departments and outside firms.

551. At the beginning of October, Trafalgar Home again joined with Tan Tock Seng Hospital in an annual exhibition and sale of the patients' work. For Trafalgar Home the sale was an outstanding success, greatly augmented by that of the patients' work which had accumulated during the previous months. It was not quite possible to complete by the end of the year all the orders placed at the sale, and this work will have to continue into the new year. In 1956 it is hoped to expand the sale of the basket work still further through the courtesy of one of the local shops.

552. Great interest has been shown in the Occupational Therapy Department at Trafalgar Home by a group who are trying to start similar work at the Tampoi Leprosy Settlement near Johore Bahru in the Federation of Malaya. It is hoped to arrange for selected patients from Tampoi to work together with the patients in Trafalgar Home, with the ultimate aim of learning enough to become instructors in their own settlement.

ROTARY SCHOOL

553. Before School re-opened at the end of January, a short Teacher's Course was held during which there were discussions concerning the various problems met with in the School. These problems include not only school curriculum and discipline, but also age-grouping, mental age and development,

and many other aspects of the administration of a school of this kind. At the opening of the School year there were 65 boys and 42 girls whose ages ranged from six to nineteen, and during the year 26 boys and 14 girls have been admitted. A number of boys have left school as apprentice dressers, attendants and carpenters, and four girls—one as a nursing aide and the other three as ayahs. Ten children have been discharged to take up their normal life in their own homes and of these many are now in English schools. The varying levels of education of children who are admitted to the Home create a problem which along with the acute shortage of staff seems almost unsolvable at times. Hence in every class there is often a difference of nine years between the youngest and the oldest child. At the moment we have classes from Primary I to Standard VII. Next year we shall be falling in line with the Government schools and will divide the School into Primary and Secondary. The children in Standard V have sat the Government Secondary Examination this year. We are hoping to have four or five candidates for School Certificate in 1957; they attend afternoon school in addition to the morning session. This class has been doing a course in Social Science during the year. We also have Chinese classes in the afternoon for those children who wish to study Mandarin.

554. The Annual Sports Day was held on July 23rd and was enjoyed by both spectators and children. The prizes were presented by Mrs. Van der Sande, the Secretary of the Children's Committee. A special debt of gratitude is owed to all the members of this Committee for their untiring activity in providing the children with pocket money, birthday presents and prizes for the Sports Day. Apart from the actual Sports Day itself, badminton and basketball matches have been held during the year and the standard of play has improved considerably.

555. This year a doll-dressing competition was held for the girls and proved very popular. Many of the entries were very good and it was extremely difficult to pick the best three. The dolls, complete with their wardrobes, were given to the poor children in the Out-patients Department. We are very grateful indeed to Mrs. Church who so kindly presented a sewing machine, and with this we have great hopes of being able to do more for these poor children.

SOCIAL ACTIVITIES

556. In an institution of this type social activities can be divided into two essentially different groups, those provided from outside by charitable organisations and those which patients themselves produce for their own entertainment and that of the staff and friends. For some years past the Singapore Leprosy Relief Association, the Franciscan Sisters, The Independent Mission, the R.A.F. Seletar and other welfare groups have done much to provide film shows, entertainment and celebrations, Christmas parties, etc. for the patients. This year, for the first time, the Staff of the General Hospital produced a pantomime which they brought to Trafalgar Home for the entertainment of the patients and gave an excellent and amusing performance which was greatly appreciated. The patients too continued to produce concerts for their own amusements and ended up with an excellent Christmas concert which gave four hours' good entertainment to all.

557. The traditional Christmas parties were a great success for both adults and children and the Singapore Leprosy Relief Association is to be congratulated on its interest in the individual needs of the patients. The Franciscan Sisters again gave a special Christmas party for the children which was outstandingly successful.



D.I.S.

Rotary School, Trafalgar Home, with view of New Buddhist Temple across the playing field



D.I.S.

View of patients accommodation and R.C. Chapel, Trafalgar Home



D.I.S.

Patients accommodation, Trafalgar Home



D.I.S.

New treatment ward, Woodbridge Hospital

SCOUTING AND GUIDING

558. Scouts and Guides continued their steady progress throughout the year and while they lacked any great highlights such as the visit of the Chief Scout in 1954, the Scout troop and the Guide company have done well and contributed an invaluable part to the lives of the young people in the Home.

LEPROSY BOARD

559. The constitution of the Leprosy Board remains unchanged throughout the year except that during the short leave of the Medical Superintendent, Dr. R. J. Grove-White, Dr. Tan Kwang Hoh acted in his place.

CHAPTER TWENTY-ONE

RADIOLOGY

560. Dr. R. D. McPherson, Senior Radiologist, went on leave in April prior to retirement and Dr. Lim Kee Loo took over as Acting Senior Radiologist.

561. The staff position at the end of the year was as follows:—

			<i>Radiographers</i>	<i>X-Ray Assistants</i>
General Hospital	...	...	9	2
Tan Tock Seng Hospital	...	...	2	Nil
Kandang Kerbau Maternity Hospital	...	...	1	Nil
Woodbridge Hospital	...	...	1 (part-time)	Nil
On Scholarship in the U.K.	...	...	Nil	4

562. The Radiological Department provides a diagnostic service at the General Hospital, Tan Tock Seng Hospital, Kandang Kerbau Hospital and Woodbridge, and in addition a radio-therapy service at the General Hospital. The total number of diagnostic X-ray examinations carried out increased from 104,605 in 1954 to 121,819 in 1955, an increase of 16.5 per cent. The total number of cases treated by radio-therapy at the General Hospital increased from 565 in 1954 to 599 in 1955, an increase of about 6 per cent.

563. During the year additional floor space was made available to the Radiology Department because of the provision of new theatre accommodation for the surgical units. This released the previous operation theatres for the use of the Radiology Department. It is hoped that the plans prepared for the division of the Radiology Department at the General Hospital into a diagnostic unit and a radio-therapy unit, each with separate accommodation, will be implemented during 1956 as the present accommodation is being taxed to the limit and the demands made on both sections of the Department are increasing almost daily.

Diagnostic Radiology

564. The number of examinations carried out is shown in the following table (compared with figures for 1954):—

		1955	1954	Increase	Percentage increase
General Hospital	...	53,880	46,189	7,691	16.6%
Tan Tock Seng Hospital	...	60,406	55,014	5,392	9.8%
Kandang Kerbau Hospital	...	3,563	2,983	580	19.5%
Woodbridge Hospital	...	3,970	419	3,551	84.7%
Total	...	121,819	104,605	17,214	16.5%

Radio-therapy Section

565. Dr. (Miss) Jean K. Ritchie, B.M., B.CH., was in charge of the Radio-therapy Section throughout the year.

566. The total number of cases treated was 599.

Installations—Kandang Kerbau Hospital

567. New accommodation was made available for the Department and equipment was transferred in the latter part of the year. The improved facilities available were much appreciated by all members of the staff.

568. The following tables indicate the scope and volume of the work undertaken by the Radiology Department during the course of the year:—

GENERAL HOSPITAL

(a) SUMMARY OF WORK DONE IN THE DIAGNOSTIC SECTION IN 1955

				(1954 figures in brackets)
1.	Chest	...	21,180	(18,772)
2.	Bronchography	...	134	(127)
3.	Gastro-Intestinal Tract (Barium Meals and Enemas)	...	2,221	(1,996)
4.	Renal Tract	...	1,268	(1,081)
5.	Gall Bladder	...	406	(381)
6.	Heart	...	327	(287)
7.	Pregnancy	...	30	(52)
8.	Salpingography	...	136	(119)
9.	Encephalography and Ventriculography	...	34	(33)
10.	Bones and Joints (a) Injuries	...	20,960	(16,847)
	(b) Diseases	...	4,486	(4,157)
11.	Sinuses	...	776	(905)
12.	Teeth	...	49	(22)
13.	Tomography	...	69	(54)
14.	Myelography	...	24	(19)
15.	Arteriography	...	35	(74)
16.	Angiocardiogram	...	36	(—)
17.	Miscellaneous	...	1,709	(1,263)
Total			53,880	(46,189)
Average per month			4,490	(3,849)

(b) SUMMARY OF WORK DONE IN THE RADIO-THERAPY SECTION IN 1955

(1954 figures
in brackets)

DEEP X-RAY THERAPY:

Malignant Cases:

Nasopharyngeal tumours	...	123	
Breast	...	39	
Bronchus	...	18	
Cervix and uterus	...	17	
Ovary	...	6	
Oesophagus	...	10	
Mouth—tongue and palate	...	8	
Tonsil	...	5	
Betel nut carcinoma cheek	...	5	
Larynx	...	15	
Chronic Myeloid Leukæmia	...	7	
Nose	...	3	
Seminoma	...	4	
Bladder	...	1	
Thyroid	...	5	
Alveolus and antrum	...	6	
Malignant skin tumours	...	4	
Parotid tumours	...	7	
Pituitary tumours	...	5	
Miscellaneous	...	65	
		353	(297)
Carried forward		353	(297)

(1954 figures
in brackets)

			<i>Brought forward</i> ...	353	(297)
<i>Non Malignant:</i>					
Ankylosing spondylitis	...	...	24		
Artificial menopause	...	...	35		
T.B. Glands	...	...	27		
Other arthritis	...	...	7		
Herpes	...	...	2		
Hæmangioma	...	...	3		
				98	(118)
			Total ...	451	(415)
SUPERFICIAL X-RAY THERAPY:					
Hæmangiomas	...	...	19		
Eczema	...	...	26		
Keloids	...	...	41		
Miscellaneous	...	...	23		
Rodent Ulcers	...	...	17		
Other skin { Tinea 4 Acne 6 }	...	...	10		
			Total ...	136	(146)
RADIUM CASES	...	...	...	12	(4)
			Grand Total ...	599	(565)

TAN TOCK SENG HOSPITAL

SUMMARY OF WORK DONE IN THE X-RAY DEPARTMENT IN 1955

(1954 figures
in brackets)

Chest (Large films)	...	...	43,411	
Chest (Miniature films)	...	...	12,176	
Tomography	...	...	3,614	
Fluoroscopy	...	...	224	(excluding cases done by resident doctors)
Barium meals	...	...	95	
Miscellaneous	...	...	886	
			Total ...	60,406 (55,014)

KANDANG KERBAU HOSPITAL

SUMMARY OF WORK DONE IN THE X-RAY DEPARTMENT IN 1955

(1954 figures
in brackets)

Chest	...	...	1,332	(1,105)
Abdomen	...	...	1,202	(1,062)
Pelvimetry	...	...	643	(360)
Intravenous Pyelography	...	...	126	(154)
Skull and Sinuses	...	...	49	(116)
Spine and Pelvis	...	...	59	(99)
Extremities	...	...	63	(66)
Hystero-Salpinogram	...	...	89	(Nil)
Miscellaneous	...	...	—	(21)
			Total ...	3,563 (2,983)

CHAPTER TWENTY-TWO

PSYCHOLOGICAL MEDICINE

WOODBIDGE HOSPITAL

569. Throughout 1955 the policy of liberalising the admission and discharge of patients and of providing more freedom for them while in hospital has been maintained. This policy has not attained the ideal state where documentation and restrictions are cut to the minimum but it is hoped that this aim will be attained in the not very distant future.

570. As far as conditions allow patients have been given as much freedom and entertainment as possible and every effort has been made to continue the process of rehabilitation and resocialisation.

571. Arrangements were made to achieve a closer connection with the patients' relatives. It is now rare for a patient's relatives not to be interviewed at least once by the doctor or the psychiatric social worker. This has produced a better understanding of the patient and his difficulties and has enabled some patients to be discharged who might otherwise have had to remain in hospital indefinitely.

572. Intensive treatment continued during the year and has been sufficiently successful to prevent any significant rise in the annual increase in the total number of in-patients which remains at about 200 per annum.

573. The principle of continual research and seeking after knowledge has been pursued and in co-operation with a physician an investigation into liver function in schizophrenic patients under insulin shock treatment was begun and is continuing. Other orthodox treatments were carried out as necessary and included a small series of leucotomies on selected patients.

574. Occupational therapy has been given a boost by the appointment of one male and female fully-trained therapist to each division. Once the Occupational Therapy Departments have been reorganised an intensive campaign will be launched to bring this treatment into more wards.

575. Patients have continued to play a large part in the everyday running of the hospital. They are therapeutically employed in every department and produce about half the total consumption of vegetables. All the hospital sewing and mending is carried out by them and they make up the entire compliment of bedding, sheeting, clothing, etc.

PSYCHIATRIC OUT-PATIENT DEPARTMENT—GENERAL HOSPITAL

576. The work in this Clinic has not shown the large increase which was expected as a result of experience in previous years. The average number of attendances per session, including old cases who do not require so much time, was 13.48 in 1954 and 14.67 in 1955. This is an increase of only 1.19 patients and was easily undertaken.

577. An average of 14.67 per session is about the maximum number of patients which one doctor can see per visit and is really possible because only the non-psychotic cases are treated as out-patients, and the Clinic serves more or less as a sorting house and diagnostic centre. It does not take very long to recognise a frankly psychotic patient nor an obvious gross case of mental deficiency nor to take the appropriate administrative steps.

In addition, many of the old cases are people requiring renewal of a prescription, such as in epilepsy, and the time factor for them is much reduced. However, any further significant increase in attendance would necessitate the extension of the service either by holding another session or by having two psychiatrists present at a time. Any further session should be held on a Monday morning.

578. With the opening of the new Child Guidance Clinic the work in the present Psychiatric Clinic is certain to be reduced as all those patients under 16 years of age would be referred to the former. In the past year there were 100 patients of 16 years of age and under and if they had been dealt with by their own Clinic the daily average at the adult Clinic would have been reduced to an easy 12.63 patients.

579. The necessity for having Chinese speaking psychiatrists is again strongly emphasised by the fact that 78.44 per cent of all attendances were by Chinese people. This is an increase of 5.26 per cent over 1954. By comparison all the other racial groups were slightly reduced in number. The shift in all cases has been small and no significance has been attached to it. It is expected that the language difficulty may be solved in two to three years' time as by then a native speaking Chinese psychiatrist may be available.

580. The brunt of all mental ill health continues to fall on the young people and it is interesting to note how steady and regular the incidence is. In 1954, in the age group 21-30 years the incidence was 27.39 per cent and in 1955 it is 27.40 per cent. Out of the total number of patients examined 54.66 per cent were of 30 years of age or under.

581. Those who attended the clinic were the worst cases but there are the very large groups of the maladjusted, the highgrade mental defectives, the misfits, the behaviour problems and others which have been, and are so far, untouched by psycho-social medicine due to lack of support, facilities, staff and force of public opinion. It should never be forgotten that every sick person has a psychological aspect to his illness, even though it be only the fear of illness, and as such there should be every facility at the doctors' disposal to ensure quick recovery of the patient as a whole.

582. The Psychiatric Clinic continued to exert its influence on the number of admissions to Woodbridge Hospital. It has succeeded in preventing the unnecessary admission of many patients and in combination with improvements at the hospital it has been found possible to keep the overall increase in number of in-patients to about two hundred.

583. During 1955 there has been a substantial change in the sex ratios of patients attending. The change is one of 7.07 per cent decrease in the number of women patients, whereas the men have increased in proportion. The reason for this is not known.

584. A few interesting points are shown when records of 1954 and 1955 are compared. In each year the number of mentally defective persons examined has been practically the same, e.g. 9.99 per cent and 9.74 per cent respectively. This is very similar to figures from other countries where it is estimated that 10 per cent of referrals are defective. It was found that approximately 10 per cent of persons referred for examination had no detectable psychiatric disability. In the case of schizophrenia the figures for the two years are respectively 16.68 per cent and 16.00 per cent.

585. It is interesting, and encouraging, to note that the rate of admission from this Clinic to Woodbridge Hospital has fallen by 3.77 per cent and is confirmatory evidence of the influence being exerted by the Clinic.

TABLE No. 1

PSYCHIATRIC OUT-PATIENT DEPARTMENT

Total Number of Patients Examined and Treated—1955

			<i>Cases</i>	<i>Percentage of Total</i>
Men	...	...	457	63.56
Women	...	...	262	36.44
Total			719	100%
Average per visit			... 14.67 (including old cases).	

TABLE No. 2

PSYCHIATRIC OUT-PATIENT DEPARTMENT

Distribution by Race

<i>Race</i>			<i>Number</i>	<i>Percentage of Total</i>
Chinese	...	...	564	78.44
Indian and Pakistani	...	...	85	11.82
Malay	...	...	32	4.45
Eurasian	...	...	21	2.92
European	...	...	16	2.23
Other Asian	...	...	1	0.14
Total			719	100%

TABLE No. 3

PSYCHIATRIC OUT-PATIENT DEPARTMENT

Distribution by Age Group

<i>Years</i>			<i>Number</i>	<i>Percentage of Total</i>
0-10	...	...	45	6.26
11-20	...	...	151	21.00
21-30	...	...	197	27.40
31-40	...	...	160	22.25
41-50	...	...	100	13.91
51-60	...	...	42	5.84
61-70	...	...	20	2.78
71-80	...	...	3	0.42
81-90	...	...	—	—
91-100	...	...	1	0.14
Total			719	100%

Total under 30 years = 393 = 54.66 per cent of the whole.

TABLE No. 4

PSYCHIATRIC OUT-PATIENT DEPARTMENT

Distribution by Diagnosis

<i>Diagnosis</i>	<i>Number</i>	<i>Percentage of Total</i>
Addiction	6	0.83
Behaviour Disorder	3	0.42
Cerebral Tumour	1	0.14
Epilepsy	18	2.50
General Paralysis of Insane	23	3.20
Hydrocephalus	1	0.14
Inadequate Personality	10	1.39
Malingering	6	0.83
Manic Depressive Reaction	86	11.96
Mental Deficiency:—		
Idiot	10	1.39
Imbecile	25	3.48
Feeble-minded	35	4.87
Nothing Abnormal Detected	77	10.70
Obsessive—Compulsive	2	0.28
Observation (N.Y.D.)	33	4.59
Organic Reaction	35	4.87
Other Physical Disease	19	2.64
Post Concussional Syndrome	1	0.14
Psychoneurotic Reactions	199	27.68
Psychopathic Personality	2	0.28
Schizophrenic Reactions	115	16.00
Toxic Confusional States	12	1.67
Total	719	100%

Treatment

586. The treatment of neurosyphilis by penicillin introduced last year has continued and so far has appeared to be at least as effective as the older methods using arsenicals and bismuth. The number of patients under treatment at any one time has thus been reduced, as has the work of the staff.

587. Electro-shock therapy was used more extensively especially in the schizophrenias. It was used in cases of schizophrenia who were awaiting admission to the insulin units which are unable to cope with all the patients requiring treatment.

588. This has meant a considerable delay in the beginning of treatment in some cases. The therapy was useful in producing recovery in those cases of atypical depression presenting with a schizophrenic-like picture, and in some of those suffering from acute schizophrenia. In the more chronic cases it helped in preventing the deterioration which takes place in untreated patients.

589. Rauwolfia has been used alone, in combination with electroshock, or chlorpromazine or all three together. It seems that rauwolfia has enabled a number of patients to be discharged and to maintain their recovery after electro-shock who might not otherwise have left hospital.

590. Chlorpromazine has not been as successful as claims made elsewhere would seem to indicate. It is not very different from heavy sedation and there are a number of undesirable side effects. It cannot be said that it has produced complete recovery in any patient either in hospital or at the Psychiatric Clinic.

591. The insulin units continued to work at full pressure throughout the year and a total of some 145 patients have passed through them. The treatment is basically the same as in other centres although there are minor differences. Research into liver function in insulin treatment of schizophrenias has continued in co-operation with a physician of the General Hospital. It is hoped to throw some light into the problem of post-hypoglycaemic coma and delayed awakenings.

592. Other routine orthodox treatments were also provided and those suffering from intercurrent physical disease received the appropriate attention.

593. Details of the various major psychiatric treatments given during the year are shown in the table below:—

(A)

INSULIN WARDS

INSULIN SHOCK TREATMENT FROM JANUARY TO NOVEMBER, 1955

		<i>Male</i>	<i>Female</i>	<i>Total</i>
Number of patients receiving treatment	...	70	75	145
Number of patients discharged	...	33	44	77
Number of patients remaining in Hospital	...	20	16	36
Number of patients still under treatment	...	15	15	30
Number of deaths	...	2	—	2
Total Number of Units of Insulin used	...	474,740	636,858	1,111,598
Average per patient	...	6,782	8,492	—
Total Number of Treatments given	...	3,227	3,840	7,067

(B)

YEARLY RETURNS FROM 1-1-55 TO 30-11-55 OF FEMALE AND MALE E.C.T., G.P.I. AND ANTI SYPHILITIC COURSES GIVEN

		<i>Male</i>	<i>Female</i>	<i>Total</i>
Number of patients receiving E.C.T.	...	677	602	1,379
Number of E.C.T. Treatments Given	...	6,105	4,063	10,168
Number of G.P.I. patients in Hospital on 30-11-55	...	113	30	143
Number of G.P.I. admitted from 1-1-55 to 30-11-55	...	38	29	67
Number of patients suffering from Syphilis admitted from 1-1-55 to 30-11-55	...	67	31	98
Number of Neurosyphilitic Courses given from 1-1-55 to 30-11-55	...	331	29	360
Number of Anti-Syphilitic Courses given from 1-1-55 to 30-11-55	...	231	22	253
Number of patients suffering from Syphilis in Hospital on 30-11-55	...	64	48	112
Number of Epileptics in Hospital on 30-11-55	...	39	35	74
Number of patients discharged after E.C.T.	...	158	300	458
Number of patients suffering from G.P.I. discharged from 1-1-55 to 30-11-55	...	32	6	38
Number of patients suffering from Syphilis discharged from 1-1-55 to 30-11-55	...	4	15	19
Number of patients suffering from Epilepsy discharged from 1-1-55 to 30-11-55	...	1	6	7

Dental Clinic

594. With the appointment of a dental surgeon in care of all chronic sick it is now possible to provide dental services on three days per week. In the past only conservation and extractions were possible, but now a much more comprehensive service is available.

595. The maintenance of good dental hygiene and mechanical efficiency is very important in a mental hospital. Because of their mental state many patients can do little or nothing for their mouths which rapidly become foul. The dental officer is a most valuable ally of the nursing staff in co-operating with and advising on these problems.

596. The amount of work done during the year is shown below:—

DENTAL CLINIC RETURN FOR 1955

WOODBIDGE HOSPITAL, SINGAPORE

Attendance of Patients	...	...	1,707	
Exams.	...	...	271	
Fillings Amalgam.	...	...	565	
Treatment	{	Silicate	...	106
		Others	...	<u>zno</u>
			60	<u>Cem</u>
				28
Extractions	{	Decid. Teeth	...	—
		Perm. Teeth	...	966
Scaling	...	...	208	
Dressing	...	...	79	
Other Treatment	...	...	—
Treatment completed	...	...	—

MALE AND FEMALE PATIENTS WHO WERE ADMITTED AND DISCHARGED, ABSCONDED AND DIED—1955

	Male	Female	Total
Admitted as Certified Patients	556	484	1,040
Admitted as Voluntary Patients	120	105	225
Admitted as On Remand Patients	52	8	60
Admitted as Lunatic Criminal Patients	4	—	4
Number of Patients remaining at 30-11-55	1,119	813	1,932
Number of Certified Patients Discharged	273	235	508
Number of Certified Patients Absconded	2	—	2
Number of Certified Patients Died	20	16	36
Number of Voluntary Patients Discharged	94	75	169
Number of Voluntary Patients Died	1	—	1
Number of Voluntary Patients Absconded	—	—	—
Number of Remand Patients discharged to Court	35	4	39
Number of Remand Patients became certified under C.P.C.	11	1	12
Number of Remand Patients Absconded	—	—	—
Number of Remand Patients Died	—	—	—
Number of Criminal Lunatic Patients returned to Prison	3	—	3
Number of Criminal Lunatic Patients Died	—	—	—
Number of Criminal Lunatic Patients Absconded	—	—	—

OBSERVATION CASES—1955

	Male	Female	Total
Admitted	259	87	346
Discharged	69	8	77
Certified under Section 37	175	68	243
Admitted as Voluntary Patients	14	11	25
Died	1	—	1

Occupational Therapy (Male and Female)

597. During the year two fully trained Occupational Therapists were appointed. The advent of these two officers should have a lasting effect on the occupational therapy of the hospital. It is intended that a very large increase in the amount of work done in the wards will take place. This is to give the benefit of this form of therapy to disturbed patients or those unfit for other reasons to attend at the therapy centre—e.g. tuberculous patients.

598. On the material side much very useful work has been turned out by both sections. In addition to carpentry and repair work, basketry, rug-making, weaving, soft and wooden toys, artificial flowers, fine needlework and raffia work are engaged in.

599. These departments took part in the Island Wide Health Week and produced an excellent display. Mental Health is a difficult thing to demonstrate to the public and it was only by showing what could be done by patients, and coupled with suitable poster-slogans, that it was possible for the hospital to participate at all.

Medico-Legal

600. This aspect of the psychiatric service has increased considerably. Multiple visits have been made to the local prison to advise on the mental state of prisoners.

601. All persons accused of any crime which might lead to capital punishment are thoroughly examined and the police advised of the result. Apart from these prisoners, others—accused of lesser crimes—have been referred to the Psychiatric Clinic for consultation. In addition many cases were referred direct to the Clinic by the various courts.

602. The number of juveniles referred has remained small and it is apparent that Psychiatric Social Workers should be attached to the Juvenile Court. Frequent appearances, on behalf of patients, were made in all courts, including Supreme Court, by members of the medical staff, consultant and otherwise.

Dispensary

603. This unit has been completely reorganised and altered to make a much more effective, hygienic and modern dispensary. The work has increased considerably due to the larger number of out-patients prescriptions. The latter now number some 30 per day which is about double that of previous years. Prescriptions for in-patients average 150 per day not including ward and standard stock supplies. If the work continues to increase, and it is expected that it will do, it will become necessary to obtain the assistance of a Dispensing Assistant especially as it is difficult to provide a holiday relief for the present pharmacist.

X-Ray Department

604. This unit has now been running for a little over a year and has been a most valuable asset to the hospital. The saving in time, money and transport has been very large. Formerly patients had to travel to Singapore and back for a simple X-ray and often had to wait for prolonged periods for attention at other hospitals.

605. In addition to serving Woodbridge Hospital, the department also provides facilities for the Leprosarium and certain schools.

During the year the following work was carried out:—

NUMBER OF PATIENTS X-RAYED IN 1955

Schools	...	...	575
Trafalgar Home	...	...	322
Woodbridge Hospital	...	...	2,907
Total	...		<u>3,807</u>

Laboratory

606. This is under the care of a Laboratory Assistant. Only clinical pathology is carried out and there has been no histology done. There has been little change in this department during the year.

607. General Statistics pertaining to patients are shown below:—

MALE AND FEMALE PATIENTS (BY NATIONALITY) REMAINING
AT THE END OF NOVEMBER 1955

			<i>Male</i>	<i>Female</i>	<i>Total</i>
Chinese	...	...	910	695	1,605
Malay	...	...	101	40	141
Indian and Pakistani	...	...	93	53	146
Eurasian	...	...	10	24	34
European	...	...	5	1	6
Total	...		<u>1,119</u>	<u>813</u>	<u>1,932</u>
1st Class	...	...	11	10	21
2nd Class	...	...	48	20	68
3rd Class	...	...	1,060	783	1,843
Total	...		<u>1,119</u>	<u>813</u>	<u>1,932</u>

Farm Lands and Gardens

608. The cultivated area has remained the same as last year although a further five acres have been cleared. In all there are now some 65 acres available for the planting of vegetables. In addition to this area there are some 1,000 coconut trees planted throughout the grounds and which are on lease to a local contractor. The contractor has to supply the main kitchens with nuts and all the husks are given to the male occupational therapy department to be broken down and made into a variety of articles or used as stuffing for furniture.

609. Over a dozen different types of root and leaf vegetables are grown and the actual weight produced during eleven months was 186,321 lbs. The value of this crop is about \$1,000 less than in 1954. Probably the most important factor in reduction of output was the discharge of recovered patients. This, of course, is the main object of garden-farming, i.e. to rehabilitate and train recovering and recovered patients and to send them back to life fit to earn their living. This turn-over of patients means that the staff is constantly having to train newly recovered patients in the arts of gardening and farming.

610. The flower nursery produced many plants, both cut and potted, which were distributed around the hospital thus materially brightening up the wards and departments.

611. A new circular dirt road was prepared by patient and mechanical labour and provides access to any part of the hospital for wheeled vehicles. In making this road about 200 yards of a high bank were levelled and returfed—a major undertaking without earth moving mechanised equipment.

Patients' Sports Day

612. This annual event was successful as usual and provided a day of relaxation not only for the patients but for the staff as well.

General

613. Plans for the building of four new two-storey ward blocks are well advanced. These will provide some 264 new, and very much needed, beds. The four wards, two male and two female, will form a modern treatment block if present plans are brought to fruition.

614. Plans are also well advanced for the building of a Nurses' Home to house the trainee nurses and others. At present the hospital is unable to accept all the trainees who apply for training due to lack of accommodation. All available suitable accommodation for female nurses has been taken up and in some cases a special ward has had to be used.

615. One World Health Organisation Fellowship and one World Health Organisation Scholarship were awarded to officers of the hospital during the year. The former to study mental health in America and the latter to study for a postgraduate diploma in Psychological Medicine in England. A Government scholarship for the same diploma was awarded to a third officer.

CHAPTER TWENTY-THREE

LABORATORY SERVICE

616. The work of the Department of Pathology includes:—

- (1) Autopsies (H.M. Coroner and hospital cases) at the General, Tan Tock Seng and Kandang Kerbau Hospitals.
- (2) Histological examination of biopsy and autopsy specimens from the Government hospitals, clinics and general practitioners.
- (3) Bacteriological investigations from the Government hospitals, clinics, dispensaries and private practitioners.
- (4) Serological tests of blood and cerebro-spinal fluids from hospitals, clinics, dispensaries and private practitioners.
- (5) The preparation of T.A.B., Cholera and autogenous vaccines for use of Government hospitals, clinics, dispensaries and private practitioners.
- (6) The carrying out of Friedman tests for pregnancy.
- (7) The maintenance of stock cultures of bacteria.
- (8) Photography.
- (9) Hæmatology in new section.
- (10) Biochemistry—started in the department in 1954 under Dr. P. C. Leong (Biochemist) of the General Hospital.

617. It is to be noted that the work carried out by the department is not representative of Singapore as a whole as similar investigations are made at the City Council Laboratories and large numbers of clinical-pathological, hæmatological investigations and other examinations are also carried out in the clinical laboratories attached to various hospitals and clinics.

618. It is envisaged that in the future it may be agreed upon that the various clinical laboratories in the various Governmental hospitals and clinics will come under the supervision of the Senior Pathologist. This will undoubtedly bring about ease of administration, liaison and standardisation of technique. In this direction the Senior Pathologist was requested to take over the supervision of the Governmental laboratory at the Kandang Kerbau Hospital in mid-August 1955.

Teaching

619. The first Professor of Pathology (Dr. R. Kirk) was appointed in May 1955 and took over from Dr. T. Balasingham the then Head of Department (University of Malaya).

620. Assistance in teaching has been given by the Assistant Pathologists on the Government side, but this is now on a diminishing scale. Excellent co-operation between the University and Governmental sections in the department continues to exist.

621. The teaching of Forensic Medicine was carried out by Dr. L. S. da Silva (48 students attended the course in 1955).

TOTAL NUMBER OF YEARLY INVESTIGATIONS

		1951	1952	1953	1954	1955
1. Post-mortems	... ..	1,876	1,889	2,329	2,025	2,172
2. Histological Examinations	...	3,260	4,673	6,203	7,039	8,728
3. Bacteriological Examinations	...	10,854	13,764	14,250	25,617	33,406
4. Serological Examinations	...	40,421	38,097	45,810	58,011	74,200
5. Hæmatology	... ..	—	—	—	1,922	10,426
	Total ...	56,411	58,423	68,592	94,614	128,932
Post-mortems on Coroner's cases	...	849	966	874	948	1,034

622. The general increase of work in all the sections continues as is evident from the figures given for 1951 to 1955. This must necessarily be expected in keeping with the expansion plans in the various hospitals which are taking place.

623. Improvement in technique continues in the various sections. New tissue processors have now been received and will assist greatly in the histology section.

624. During 1955 further strides have been made in the direction of cultures for amœbæ. During the year Sir Philip Manson-Bahr of London and Professor J. Kessel of California visited the department and saw the work done on Amœbiasis and were highly impressed with the technique used and results obtained.

REPORT ON CULTURES FOR AMŒBÆ FROM STOOLS AND RECTAL SWABS 1955

Positive for E. Histolytica

Total examined	Direct microscopy Trophozoites	Cysts	Culture	E. Coli	E. Nana	Trichomonas
959	16	5	56	9	16	8

The results from the cultures definitely show the greater value of cultures over direct microscopy (56 by culture against 21 by direct).

625. Several cultures of amœbæ have been propagated since October 1954 (15 months already) and continue to live well in the medium elaborated by the department. Much progress has been made and valuable information is being obtained by this work.

626. Publications by members of the Staff:—

Dr. H. G. T. Maycock in conjunction with Dr. Burman and Dr. Khoo Oon Teik—Acute Systematic Lupus Erythematosus. (*Malayan Medical Journal*—September 1955).

Dr. Ng Chiau Gian—Calcific Aortic Valvular Stenosis with Coarctation of Aorta. (Proceedings of the *Alumni Association of Malaya*—December 1955).

Dr. L. S. da Silva—Adipocere in the Tropics. (Proceedings of the *Alumni Association of Malaya*—December 1955).

Bacteriology

627. The number of specimens for routine examination for 1955 was 33,406 as against 25,617, an increase of 7,789 (approximately 24 per cent). The number of throat swabs increased from 2,167 in 1954 to 3,975 in 1955.

and from these *C. Diptheriæ* was isolated 42 cases for 1954 as against 81 in 1955. This has been brought about by a change in technique especially for swabs from school children. Swabs from school children are now being placed direct into Monckton's Blood Copper Tellurite Media and then transmitted for examination to the laboratory. Sputa, gastric lavage, etc for cultural examination for Mycotuberculosis totalled 9,745 of which 1,063 were positive by the culture method.

628. Cholera, T.A.B. and autogenous vaccines continue to be prepared by the department. 158 strains of organisms were maintained during the year besides strains of *E. Histolytica*. More than 2,000,000 c.c. of media and agglutinable suspensions were prepared in 1955.

Serology

629. The V.D.R.L. (Venereal Disease Research Laboratory) Test is still the screen test carried out on all sera from the Venereal clinics, hospitals, etc. Any evidence of positivity was checked with the Kahn and Wassermann Tests.

630. The P.P.R. (Price's Precipitation Reaction) was introduced towards the end of 1955.

631. 119 Gonococcus Complement Fixation Tests were performed during the year. 474 Colloidal Gold Tests (Lange's) on C.S.F. were also made during that period.

632. Antigens for the V.D.R.L., Kahn and W.R. tests are standard antigens supplied by Messrs. Burroughs & Wellcome Laboratories.

Post Mortem Examination

633. The total number was 2,172. The 1954 figure was 2,025. The number of autopsies on Coroner's Cases in 1955 was 1,034—47 per cent of the total. The corresponding figures for 1954 were 948 and 47 per cent respectively.

			1951	1952	1953	1954	1955
Tuberculosis	...	...	154	143	146	129	179
Hypertension	...	...	33	44	51	46	76
Coronary	...	...	48	65	54	73	76
Cardiovascular	...	...	37	41	33	41	23
Malaria	...	...	7	2	3	3	2
Beri-Beri	...	...	19	12	16	13	14
Amœbiasis	...	...	12	12	13	7	11
Bacillary Dysentery	...	...	7	7	6	16	1
Typhoid	...	...	8	4	7	5	4
Diphtheria	...	...	7	7	3	4	3
Lobar Pneumonia	...	...	20	31	42	28	66

634. The total number of deaths from violence and other unnatural causes during the year was 435, as compared with 450 in 1954. Out of these, there were 5 deaths from firearms, 20 from cutting and stabbing instrument, 8 from blunt instrument, 41 caustic soda poisoning (total deaths from poisoning 58), 64 hanging, 68 drowning, 148 vehicles accidents and 1 death from antibiotic anaphylaxis (1 penicillin). The number of deaths from malignant tumours was 101 as against the figure for 1954 of 91.

AGE, SEX AND RACE INCIDENCE OF AUTOPSIES ON ALL DEATHS
CORONER'S AND WARD CASES 1955

Age	Chinese		Indians and Pakistanis		Malays		Others		Total		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
0-10 years	464	392	16	5	13	2	3	3	496	402	898
11-20 years	61	40	4	1	2	2	3	..	70	43	113
21-30 years	77	57	27	3	7	8	8	2	119	70	189
31-40 years	100	59	35	4	6	2	8	1	149	66	215
41-50 years	192	52	41	2	3	1	8	1	244	56	300
51-60 years	170	45	20	5	2	..	8	1	200	51	251
61-70 years	93	38	11	2	..	..	2	1	106	41	147
Over 70 years	23	15	3	1	..	1	2	3	28	20	48
Total ..	1,180	698	157	23	33	16	42	12	1,412	749	2,161
Autopsies on decomposed corpses and foetuses											11
											2,172

Histology

635. The number of section examined during the year was 8,728, an increase of approximately 24 per cent on the 1954 figure (7,039).

636. The installation of Elliot's Tissue processors which were received at the end of 1955 will step up the rapidity of reporting of sections.

637. The incidence of disease for biopsy received from the hospitals was:—

Inflammatory	...	...	...	1,393
Tuberculosis	...	...	...	240
Benign Tumours	...	...	...	711
Malignant Tumours	...	...	...	698
Others	...	...	...	2,166
Total	...	...	...	5,208

The biopsy returns represent an analysis of separate tissues and not of individual cases.

638. The photographic section continues to do good work. The services of Mr. V. Nalpon of the University are still available by kind permission of the Professor of Pathology. Many photographs have been taken and in this connection it is interesting to state that a cine-film (approx. 10 minutes) has been made depicting the E. histolytica and the work in cultures for amœbæ. This film was screened during the Golden Jubilee Celebrations of the University of Malaya at the Faculty of Medicine.

Hæmatology

639. In June 1955 a small room attached to the General Hospital surgical Unit was made available for this work. During the year approximately 10,000 examinations were made. This section mainly serves the Governmental Surgical Unit, but increased use of certain hæmatological techniques are gradually being made.

Biochemistry

640. This division was under the supervision of Dr. P. C. Leong (Biochemist of the General Hospital) and a report on the work of the division can be seen under Chapter XV 'General Hospital'.

New Building

641. Reference to the new building (Government Pathology Sections) was made last year. During the year further planning was made as to the required floor space, etc., for the different sections. It is hoped that further progress will be made in the planning and that the foundation will be laid and building itself started in 1956. The new building will most certainly be an acquisition and will enable the department to progress and expand to cope with the increase of work, etc. consequent on modern trends and development.

Staff

- | | |
|-----------------------------|---|
| 642. Senior Pathologist ... | Dr. L. S. da Silva, L.M.S. (Singapore),
DIP. BACT. (Manchester). |
| Pathologist ... | Dr. C. Subramanyam, L.M.S. (Singapore).
(Retired but re-engaged on temporary basis). |
| Assistant Pathologists | Dr. K. Shanmugaratnam; L.M.S. (Singapore) M.D. (Singapore) D.C.P. (London).
(On study leave in U.K.).
Dr. A. O. Aaron, L.M.S. (Singapore).
Dr. Ng Chiau Gian, M.B.B.S. (Singapore).
Dr. C. Sambamurthi, M.B.B.S. (Madras).
Dr. H. G. T. Maycock, L.R.C.P., M.R.C.S.,
D.C.P. (London). |

CHAPTER TWENTY-FOUR

BLOOD TRANSFUSION

General

643. The Blood Transfusion Service has continued to serve all the Hospitals in Singapore (except the British Military Hospital) from the Centre at the General Hospital. It has not yet been found possible to decentralise the laboratory work. The Mobile Unit has been used for donor sessions mainly at the R.A.F. Stations at Seletar and Changi and to a lesser extent at other places.

644. It is hoped that at some time in the future both donor sessions and laboratory work will be possible in other hospitals, as the volume of work being undertaken continues to increase.

645. The friendly relationship with the Royal Air Force and the Army has continued to be a source of help and encouragement, and we are particularly indebted to Sqdn. Ldr. Handforth for doing regular donor sessions at the R.A.F. Hospital at Changi.

646. The amount of blood handled this year has increased to 7,470 flasks, i.e. about 620 a month.

Recipients and Donors

647. The vast majority of recipients of transfusions are, of course, Asians, mainly Chinese, in the free wards of our hospitals. About one-third of the blood used goes to maternity cases in the Kandang Kerbau Maternity Hospital and the greater part of the remainder goes to surgical cases in Kandang Kerbau Maternity Hospital and the General Hospital.

648. Very little blood comes from relatives and friends of individual patients, and we continue to be indebted, to our voluntary donors, many of whom come regularly every three months. During the year 20 were awarded Gold Medals for giving 20 times and 90 Silver Medals for 10 donations. The policy of not paying donors and not charging for blood transfusions continues. There were 2,227 new donors in the year. Some 1,689 donations came from Service men and women. There was an increase in the total number of donations from Chinese of 609, but the increase in transfusions to Chinese patients was 781. An analysis of the sources of donations and distribution of blood given is appended.

Publicity and Propaganda

649. This has been mainly directed towards the locally domiciled people. A film "Life Saver" was made at the Centre and in the General Hospital by the Malayan Film Unit, and was shown at most of the English language and Vernacular Cinemas. It has also been shown widely by the Public Relations Department and to clubs, Adult Education groups, etc. New appeal leaflets, booklets and posters have been printed in four languages and distributed.

650. The Department participated in three Exhibitions, the Safety First Week Exhibition at the Victoria Memorial Hall in June, the Medical Students' Exhibition in October and the Island Wide Health Week Exhibition in November.

651. A gift of 10,000 postcards printed in Chinese and English appealing for Chinese donors was received, and these were sent out by post to all Chinese telephone subscribers and other individuals. Another 2,000 appeal leaflets printed in Chinese were sent together with letters to Chinese firms and associations. Members of the British Red Cross Association helped with the distribution. The response to these two enterprises was negligible.

652. Personal approaches to large well established firms and offices were more successful and the City Council responded particularly well.

653. The very large majority of Asian donors are those who are English educated, or employed by European firms or Government and quasi-Government departments. We have as yet failed to breach the citadel of the Chinese-speaking community.

654. We are grateful to the British Red Cross Association for the help they have given in various ways during the year. Radio Malaya and Rediffusion have continued to broadcast appeals and announcements occasionally.

655. Free transport and refreshments are provided for donors and everything possible is done to ensure their comfort and well-being. We are indebted to East Asiatic Co., Ltd. for Carlsberg Beer, Nestle's for Milo, Nescafe and Milkmaid Milk, Malayan Tobacco Distributors Ltd. for Churchman's cigarettes, Borneo Co., Ltd. for Bovril, C. & E. Morton (M.) Ltd. for Lucozade, Sime Darby & Co., Ltd. for cigarettes, A. Wander Ltd. for Ovaltine and Rothmans Ltd. for cigarettes.

Staff

656. From March a second Medical Officer was employed on a part-time basis. She resigned in November and was replaced by another, also employed on a part-time basis.

657. Four new probationer Technicians (Division III) were recruited and started training, bringing the total technicians to 14. One is now doing general supervisory duties and has attended two courses under the T.W.I. Scheme. Another is in charge of the maintenance and distribution of sets for all intravenous infusions used in all the hospitals. The remaining 8 trained technicians, in addition to their other duties in the Laboratory and at Donor Sessions, do night duty in rotation and when on duty stay in the Department all night. A 24-hour laboratory service was maintained throughout the year. It has been decided that when the new Laboratory Assistants' scheme of training has been fully evolved, Blood Transfusion Service Technicians will be given the opportunity to undertake training in other branches of laboratory work, and will eventually be absorbed into the proposed scheme of service and all new laboratory assistants will receive training in blood group serology as part of their course.

Technical Work

658. This has continued on the same lines as previously, and the volume of routine work has increased greatly, as surgeons have blood matched for all their patients undergoing major operations as a "precautionary" measure. Nearly half the laboratory work done is for patients in the Kandang Kerbau Maternity Hospital, but much more might be done in the way of investigations in antenatal patients. Only three cases of Haemolytic Disease of the New-born due to Rhesus incompatibility were diagnosed in Asian babies (2 Chinese and 1 Indian), and all too late for effective treatment.

659. It has been established beyond doubt that Rhesus antibodies are very rare in Chinese patients, and consequently blood group serology is simpler, if less interesting, in Singapore than in the West. Nevertheless we cannot afford to ignore the possibility of Rhesus and other types of immune antibodies occurring, and we would welcome more material for investigation.

660. During the year under review Dr. (Mrs.) M.M.H. Gibson-Hill, M.R.C.S., L.R.C.P., was in charge of the Blood Transfusion Service.

ANALYSIS OF DONORS AND RECIPIENTS

Donors	Male	Female	Total No.	Recipient	Male	Female	Total No.
European ..	2,541	201	2,742	European ..	162	105	267
Chinese ..	2,465	73	2,538	Chinese ..	2,472	3,448	5,920
Indian and Pakistani ..	1,010	18	1,028	Indian and Pakistani ..	278	420	698
Malay ..	476	3	479	Malay ..	134	315	449
Eurasian ..	568	27	595	Eurasian ..	30	62	92
Others ..	86	2	88	Others ..	23	43	66
Total ..	7,146	324	7,470	Total ..	3,099	4,393	7,492

Total Individual Donors	...	...	5,502
Donations from Service Personnel	...	...	1,689
Relatives:			
Taken	...	...	279
Offered and rejected	...	...	26
New Donors	...	...	2,227
Voluntary Donors offered and rejected	...	...	316

ANALYSIS OF DISTRIBUTION

General Hospital	...	...	4,197
Kandang Kerbau Maternity Hospital	...	...	2,888
Tan Tock Seng Hospital	...	...	20
Youngberg Memorial Hospital	...	...	149
R.A.F. Hospital, Changi	...	...	153
Asian Hospital, Naval Base	...	...	6
British Military Hospital	...	...	26
Middleton Hospital	...	...	8
Trafalgar Home	...	...	6
St. Andrew's Mission Hospital	...	...	1
Singapore Nursing Home	...	...	10
Pulau Bukom Hospital	...	...	18
Other Hospitals	...	...	10
Total	...	...	7,492

CHAPTER TWENTY-FIVE

THE PHARMACEUTICAL SERVICE

661. The numbers and distribution of the staff engaged in the Pharmaceutical Service were:—

<i>Place</i>	<i>Pharmaceutical Chemists</i>	<i>Pharmacists</i>	<i>Pupil Pharmacists</i>	<i>Dispensing Assistants</i>
Government Medical Store	... 2	1	—	8
General Hospital ...	... —	5	3	12
Kandang Kerbau Hospital	... —	1	—	4
Tan Tock Seng Hospital	... —	1	—	3
Woodbridge Hospital	... —	1	—	—
Middle Road Hospital	... —	—	—	1
Total ...	2	9	3	28

662. The figures for Dispensing Assistants include Hospital Assistants engaged full time in Dispensary work and Pharmaceutical Laboratory Assistants employed in the Laboratories at the Government Medical Store. There were two new appointments for Pharmacists in 1955, one of which was filled by a Hospital Assistant who qualified through a Scholarship at the University of Malaya, in addition one temporary pharmacist was recruited. An additional scholarship for the Pharmaceutical Chemist Diploma Course has been approved for 1956.

663. The Pharmaceutical work carried out this year showed the expected increase but there was no addition to the staffs of the various hospital dispensaries other than the one pharmacist recruited for the General Hospital. The relatively large increases in Out-patient attendances and pharmaceutical supplies to hospital wards has thrown a heavy burden on the existing trained personnel. This position is largely due to the fact that there is at present no scheme for recruitment of unqualified dispensary staff, and Hospital Assistants who were trained in dispensing before the occupation period are carrying out this work. Posts of Dispensing Assistants have however been approved for 1956 and new staff will shortly be recruited. Most of the recruits will be trained initially in the General Hospital. They will undergo a systematic two-year training course in this large dispensary where there are opportunities to learn all aspects of hospital dispensing and sterile preparation work. It is anticipated that several additional Out-patient dispensaries will be opened during the next 2 or 3 years in the city and outlying areas, and the training at the General Hospital of dispensers who will later work with newly recruited pharmacists in these dispensaries is an essential feature of the expansion programme.

664. The General Hospital dispensary dealt with a total of over 300,000 out-patient prescriptions during the year and the daily average was about 1,200 prescriptions. These figures are appreciably higher than in the previous year and a further increase in 1956 can be expected. In addition to the medicines supplied to Outpatients the work involved in maintaining dispensary supplies to hospital wards was also increased. Some indication of the dispensary turnover may be obtained from the figure for the total quantity of stock mixtures prepared which was over 10,000 gallons, and that for sterile infusion fluids which exceeded 50,000 one pint bottles.

665. At the Kandang Kerbau Hospital the dispensary occupied new premises in the extension building in August. The new dispensary is spacious and has facilities for aseptic dispensing which were non-existent in the old premises. In the aseptic room, sterile bladder wash solutions, antibiotic eye drops and antibiotic dusting powders are made as at the General Hospital. These new facilities have helped considerably but the staff are still hard pressed. Whilst the number of staff remained the same the number of wards and units has increased from 22 to 28, and the Outpatient attendance has risen to an average of over 400 daily, a total of 122,000 Outpatients prescriptions being dealt with during the year. The dispensaries at both Kandang Kerbau and General Hospital provide a 24-hour service. Medicines are supplied once a day in the morning to all Wards and Units, but special and urgent demands are dealt with at any time.

666. Work in the Tan Tock Seng Hospital dispensary was also considerably increased, the daily numbers of Outpatient prescriptions averaging 770 apart from the Wards requirements. This dispensary is very congested at present but a new dispensary is envisaged in the forthcoming extensions to the hospital.

667. The total expenditure on Drugs and Pharmaceuticals in all hospitals, clinics, Infant Health Centres and Outpatient dispensaries was \$1,155,000. Approximately 40 per cent of this total is derived from expenditure on a few major items indicated below:—

				Quantity	Cost 1955		Cost 1954
					\$	\$	\$
<i>Antibiotics</i>							
Penicillin	...	...	142,775	M.U.	39,100		
Procaine Penicillin	...	...	139,527	M.U.	31,200		
Dihydrostreptomycin	...	...	149,800	grms.	52,700		
Tetracyclines (Aureomycin, Terramycin and Tetracycline)	...	...	—		51,700		
Chloramphenicol	...	...	—		6,300		
					181,000		239,400
Sod. Aminosalicylate	...	...	6,400	kilos	82,300		
Isoniazid	...	...	260	„	11,700		
					94,000		47,900
<i>Vitamins</i>							
Aneurin	...	...	128	„	30,600		
Riboflavine	...	...	29	„	7,300		
Nicotinamide	...	...	182	„	7,200		
Ascorbic Acid	...	...	99	„	5,900		
Vit. B. 12	...	...	6	grms.	4,500		
Pyridoxine A & D and others	...	...	—		4,900		
					60,400		37,200
Cortisone, Hydrocortisone and Prednisolone	...	...	—		40,700		26,200
Sulphonamides	...	...	1,250	kilos	34,500		20,100
Insulins (Plain, Prot. Zinc and Lente)	...	...	—		27,400		21,000
Alcohol B.P. and Industrial	...	...	—		17,100		15,600
Cod Liver Oil	...	...	—		16,900		17,800
Intramuscular Iron Injection	...	...	—		13,400		Nil
					485,400		

668. In 1954 the expenditure on Antibiotics represented about 25 per cent of the total drug bill but this year antibiotics accounted for only 16 per cent of the total cost. This is explained not by reduction in the use of antibiotics but by decreases in the prices of Penicillin and Dihydrostreptomycin. The amounts of Penicillin and Procain Penicillin used were slightly greater than in 1954 but the cost was very much less. The total expenditure on the 3 tuberculostatic drugs, Dihydrostreptomycin, Sodium Aminosalicylate and Isoniazid was slightly under \$150,000 which is a very modest figure when compared with the numbers of Outpatients treated at the Tan Tock Seng Hospital. The cost of the broad spectrum antibiotics, Aureomycin and Tetracycline, is still relatively high.

669. An interesting comparison between the costs of the new drugs and the old may be obtained by relating the years expenditure on Aspirin, which was \$2,500, with some of the figures in the above list. Intramuscular Iron Injection was newly introduced and is doubtless a tremendous aid in treatment of severe anaemias both in the Maternity and Child Health Centres in outlying areas and also in the hospitals. In the first year of its use, expenditure on this injection was five times that on Aspirin and next year the cost will probably exceed \$25,000 and will equal 50 per cent of the expenditure on either Penicillin or Dihydrostreptomycin.

670. The Pharmaceutical Laboratory at the Government Medical Store completed a greatly increased manufacturing programme. The higher output of Tablets and Ampoules is particularly noteworthy, the latter being more than double the figure for 1954 production. The policy of the department is to staff the hospitals and dispensaries with qualified pharmacists and trained dispensers who will be able to carry out all the general pharmaceutical work. At the same time the production of tablets, standard injections, emulsions, ointments packed in tubes, and similar products is done centrally in the laboratories at the Government Medical Store. This policy ensures that these standard pharmaceutical preparations, manufacture of which can be carried out most satisfactorily by use of machines or special equipment, are made in the most economical way. Factory methods of batch production and packing are used and unskilled labour is employed supervised by qualified pharmacists and a trained tablet-maker.

671. During the year arrangements were completed to have batch control testing done by the Department of Chemistry. A sample from each batch of manufactured preparations is now sent to the Outram Road laboratories and assayed for purity or content of active drug. The co-operation of the Chemistry Department in this work is greatly appreciated. They have also assisted in devising or improving the method of preparation of a number of products. Batch control samples of all injections are tested for sterility by the Department of Pathology.

672. Construction of an extension to the manufacturing laboratories was commenced at the end of the year; when completed this will provide two additional rooms, one for housing tablet machines and the other for preparation of sterile infusion fluids. Rearrangements of the Wets Packing Laboratory have been carried out and additional filtration and packing equipment is about to be ordered.

673. A comparison is given below of the 1955 production figures in the pharmaceutical laboratory with the figures for the 3 previous years.

	1952	1953	1954	1955
Tablets (millions)	6.7	16.2	23.2	39.4
Ampoules	43,600	103,100	150,400	324,400
Multidose Injection Vials	38,200	39,800	72,900	73,900
Sterile Infusion Fluids (pint bottles) ..	8,300	7,100	12,500	18,500
Tinctures, Infusions and Extracts (gallons)	785	717	845	1,625
Emulsions (gallons)	287	301	341	590
Mixtures and Lotions (gallons) ..	3,200	2,600	4,100	14,700
Linctus and Syrups (lb.)	15,800	23,900	33,300	12,600
Ointments and Creams (lb.)	3,200	4,100	5,800	8,600
Ointments and Creams in tubes .. ..	..	..	..	9,500
Laboratory Reagent Solutions (litres) ..	404	448	554	2,880
Suppositories and Pessaries (No.) ..	3,400	3,800	6,300	19,900

674. In relation to this relatively large turnover of pharmaceutical products, the expenditure on general maintenance of the manufacturing laboratory was only \$4,400; on City Services and other overhead costs approximately \$8,000, and staff salaries \$76,000. The value of raw materials converted into manufacturing products, i.e. the nett cost, was slightly under \$270,000 and a very conservative estimate of the cost of purchased pharmaceuticals is an average of 50 per cent above the nett cost of locally manufactured preparations. On this basis, the saving during the year after deduction of the overhead charges indicated above amounts to a relatively large sum. On ampoules and other sterile preparations the saving is well over 50 per cent, on individual preparations it has been found to vary between 100 per cent and 300 per cent. A general comparison of the work of the Stores and Laboratory Sections at the Government Medical Store with the figures for the previous 8 years is given below:—

<i>Stores Section</i>		<i>Laboratory Section</i>	
Number of orders for supplies to hospital, clinics, etc. in 1955 ...	5,607	Number of Works Tickets completed by Laboratory	2,052
Total value of Drugs, Chemicals, etc. distributed ...	\$1,155,033	Net value of materials used in manufacture of pharmaceuticals ...	\$269,509
Total value of Surgical equipment, dressings and sundries distributed ...	749,809		
Grand Total ...	\$1,904,842		

Turnover for past 8 Years
(Total value of stores supplied)

	\$
1948	623,881
1949	1,032,564
1950	1,139,701
1951	1,184,485
1952	1,448,831
1953	1,629,474
1954	1,503,867
1955	1,904,842

Production for past 8 Years
(Net value of materials)

	\$
1948	47,805
1949	92,864
1950	107,438
1951	87,646
1952	176,412
1953	196,792
1954	249,333
1955	269,509

675. In the Stores Section, as indicated, the turnover of drugs and chemicals was well over \$1,000,000 for the first time. The total of \$749,800 value of Surgical equipment, etc. includes the following major items:—

	\$
Textiles (linen, bedding, patients' clothing and staff uniform materials)	281,000
Plaster of Paris Bandages	60,000
Other Surgical Dressings (bandages, cotton wool, gauze, etc.)	142,000
Catgut Sutures	31,000
Surgeons Rubber Gloves	6,000

The remainder is comprised mainly of Surgical instruments, laboratory and dispensary requisites and hospital equipment.

676. An increased amount of local purchasing was done this year, principally for items which are obtained from a specific manufacturer when the local agents can offer prompt delivery and service facilities. As usual contracts were awarded for supplies of X-Ray films and for Oxygen, Nitrous Oxide and other medical gases. Drugs and equipment which are purchased by competitive tender can normally be obtained at appreciably lower prices by using the Crown Agents tendering organisation in London where tenders are obtained from both British and Continental manufacturers. Many of the leading manufacturers of drugs and surgical equipment are not actively represented by local agents and London tenders therefore produce much lower prices than those obtained locally. The Crown Agents office has very comprehensive records of the manufacturers who are able to tender for the various types of medical supplies and frequently obtains special discounts as a bulk buyer. Alcohol and Industrial Spirit were purchased direct from South Africa and Ether from Australia. The importing organisation of Government Medical Store has provided the following statistics in relation to the work during the past 2 years.

	1954	1955
Number of Bills of Lading exchanged ...	657	891
Number of packages received—		
(a) per sea	3,475	5,219
(b) per post, air and rail	1,010	1,674
Number of Parcels despatched—		
(a) per sea	28	60
(b) per post, air and rail	—	96
Number of claims on shippers or suppliers ...	49	87

677. As in previous years supplies were made to the University of Malaya, S.A.T.A. and various charitable institutions. Urgent requests, usually for special injections, for the Army and R.A.F. hospitals were catered for, and Dangerous Drugs were supplied to private pharmacies. Supplies were also sent to the Sarawak Medical Department whose requirements were principally manufactured pharmaceuticals, injections, kaolin poultice, etc.; several thousand ampoules were also supplied to the Federation Medical Department.

678. The value of stores in stock at Government Medical Store at the end of the year was \$1,062,226 and the value of stores written off during the year \$16,633. In relation to the figure for the year's turnover these represent a stock holding of 56 per cent of the value of the turnover and an annual write-off of 0.9 per cent of the turnover. In view of the fact that it is essential to keep "dead stocks" of a number of items in case of emergency, these

stock figures can be considered satisfactory. The increased turnover of medical stores has resulted in shortage of godown space and some congestion; approval has been given for construction of another godown, and building commenced at the end of the year.

679. This year a high proportion of the Crown Agents Indents for hospital supplies were charged direct to the hospital vote although the importing and checking were handled by the Government Medical Store. The total value of these orders was \$648,230. The value of orders placed through the Crown Agents for stores purchased through the Government Medical Store buying account and other financial statistics relating to the year's turnover in this account are given below:—

UNALLOCATED STORES PURCHASES ACCOUNT

				\$
(1) Value of Orders placed through Crown Agents	...			1,462,241
(2) Value of Stores purchased locally	...			465,776
(3) Value of Stores purchased from other Countries:—				
			\$	c.
India	...	...	936	63
Australia	...	...	5,523	43
				<u>6,460</u>

UNALLOCATED STORES RECOVERIES ACCOUNT

				\$
(1) Total Cost of Stores Billed	...	...	...	1,615,707
(2) Total Bills outstanding	...	...	...	9,430
(3) Payment to U.S. Recoveries Accounts:—				
(i) by adjustments	...	...	...	1,434,973
(ii) by cash	...	...	...	180,112
(4) Payments to Revenue	...	...	...	104,530
(5) Surcharge 10% on sales to non-Government Institutions	...	...	...	3,506

680. Superintending Pharmaceutical Chemist—D. E. Lovett, B. Pharm., Ph. C.

CHAPTER TWENTY-SIX

INFECTIOUS DISEASE

MIDDLETON HOSPITAL

681. Middleton Hospital, the only institution specifically reserved for infectious disease in the Colony apart from the Quarantine Station, admitted 3,312 cases in 1955 compared with 2,914 cases during the previous year. No case of plague, cholera or small-pox was observed for the eighth consecutive year.

682. The following table gives an indication of the principal conditions dealt with over the period under review:—

Diseases			Remaining from 1954	Admis- sions	Dis- charges	Deaths	Remaining
Small-pox	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..
Chickenpox	..	..	26	1,769	1,776	1	18
Measles	..	..	5	200	190	13	2
Diphtheria	..	..	20	460	403	41	36
Diphtheria Carrier	..	..	5	114	118	..	1
Acute Ant. Poliomyelitis	..	..	31	19	29	2	19
Late effects of Polio	..	..	..	1	..	..	1
T.B. Meningitis	..	..	..	1	1	..	..
Pulmonary Tuberculosis	..	..	..	2	2	..	..
Typhoid Fever	..	..	14	114	121	2	7
Para-typhoid "A"	..	..	..	1	1	..	..
Typhoid Carrier	..	..	..	5	5	..	..
Amoebic Dysentery	..	..	6	136	139	..	3
Bacillary Dysentery	..	..	..	17	17	..	..
Clinical Dysentery	..	..	..	35	33	..	2
Mumps	..	..	1	57	57	..	1
Whooping Cough	..	..	..	5	4	..	1
Acute Encephalitis	..	..	..	3	..	3	..
Yaws	..	..	..	1	1	..	..
Typhoid Carrier Obser.	..	..	..	78	78	..	..
Observations	..	..	4	115	116	..	1
Other diseases	..	..	2	179	169	8	4
Total			114	3,312	3,260	70	96

Typhoid Fever

683. 114 cases of Typhoid Fever were admitted during the year, and with 14 cases remaining on the 31st December, 1954, a total of 128 cases were treated. Two cases died, a case mortality rate of 1.48 per cent. During 1954 there were 125 admissions with four deaths.

684. During the latter part of August and early in September, five cases, a mother and four children, were admitted from the same household in Hindoo Road. The common source of infection could not be traced.

685. The Table below shows the number of admissions and deaths by months.

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Cases ..	9	12	19	10	11	6	5	7	7	11	5	12	114
Died ..	..	..	..	1	..	..	..	..	..	..	..	1	2

Typhoid Carriers

686. Two cases of bacteriologically proved typhoid carriers were admitted during the year. One, an Indian shop-keeper, was found to excrete *B. typhosus* on routine stool examination at the R.N. Asian Hospital. He was treated with a course of penicillin and sulphonamides after which his stools were negative.

687. The other case was a Malay policeman who was admitted in March for typhoid fever and discharged in June after two courses of penicillin and sulphonamides failed to clear his stool of *B. typhosus*. He was re-admitted four times at monthly intervals and was found to be still excreting *B. typhosus*. When it was found that the bacillus was sensitive to aureomycin, he was given a course of this antibiotic. His stools are now apparently free from *B. typhosus* and a follow-up of this patient is in progress.

Diphtheria

688. 460 cases of Diphtheria were admitted during the year, the highest number of cases treated since post-war, a record figure. With 20 cases remaining from the previous year, a total of 480 cases were treated. Of these 480 cases 41 died, a case mortality rate of 8.54 per cent. 17 cases died within 24 hours after admission. Tracheotomy operations were done on 91 cases (18.9 per cent) of which 25 died, a mortality rate of 27.4 per cent. During 1954, there were 345 admissions with 34 deaths. All the diphtheria cases admitted had no history of previous immunization. 81 cases were from the rural area. Besides the above clinical cases, 114 contact diphtheria carriers with positive swab for *C. diphtheria* were also admitted for isolation and treatment.

MONTHLY DIPHTHERIA ADMISSIONS AND DEATHS

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Cases ..	27	19	30	31	24	44	36	46	43	40	58	62	460
Died ..	5	2	1	1	5	2	2	6	1	6	5	5	41

DIPHTHERIA ADMISSIONS AND DEATHS BY AGE GROUP

Age	Cases	Deaths
Under 1 year ...	24	6
1 - 2 years ...	79	14
3 - 5 „ ...	219	18
6 - 10 „ ...	83	2
11 - 15 „ ...	42	1
16 - 20 „ ...	8	—
21 years and above ...	5	—
Total ...	460	41

DIPHTHERIA ADMISSIONS AND DEATHS BY ETHNIC GROUPS

Race			Admissions	Deaths
Europeans	...	...	1	—
Eurasians	...	...	3	—
Chinese	...	...	432	36
Indians and Pakistanis	...	...	9	1
Malays	...	...	11	4
Others	...	...	4	—
Total			460	41

DIPHTHERIA—TYPES OF CASES AND DEATHS

Types of Cases			Admissions	Deaths
Laryngeal and Tracheal	...	...	132	26
Naso-pharyngeal	...	...	103	11
Faucial and Tonsillar	...	...	213	4
Nasal	...	...	12	—
Total			460	41

DIPHTHERIA—ADMISSIONS, DEATHS AND TRACHEOTOMY

Total admissions	...	...	460
Total deaths	...	...	41
Case mortality rate	...	...	8.91%
Died within 24 hours after admission	...	...	17
Number of Tracheotomies done	...	...	91
Number of Deaths after Trachy.	...	...	25

A number of cases suspected of Diphtheria were admitted, but on investigation they were diagnosed as follows:—

Bronchitis and Bronchopneumonia	...	...	18
Asthmatic Bronchitis	...	...	4
Acute Tonsillitis and Laryngitis	...	...	115

Chickenpox

689. 1,769 cases of Chickenpox were admitted during the year, the highest number ever admitted into this hospital in one year. One case, a female child of 7 years, died 9 hours after admission with symptoms of encephalitis and broncho-pneumonia.

AGE, SEX AND NATIONALITY OF CHICKENPOX CASES

Nationality	0–10 years		11–20 years		21 years		Total
	M.	F.	M.	F.	M.	F.	
Europeans ..	6	1	2	..	..	..	9
Eurasians ..	12	10	11	3	11	4	51
Chinese ..	108	95	131	63	91	39	527
Indians and Pakistanis	96	48	118	44	592	58	956
Malays ..	18	16	34	7	62	7	144
Others ..	16	7	12	7	34	6	82
Total ..	256	177	308	124	790	114	1,769

690. The increased admission does not denote the true incidence of the disease in Singapore as not all the cases of Chickenpox are admitted. Neither does it denote an epidemic as the admissions occurred about equally throughout the year.

691. The above Table showed that more than half of the total admissions are Indians and Pakistanis, the vast majority among the male adults, reasons for this being:—

- (1) They are mainly labourers living in labourers' quarters or in dormitories, and any infectious disease among them will spread rapidly.
- (2) They seek hospital treatment as they have no family to attend to their needs at home while they are ill. Chickenpox in adults can be quite a severe disease.
- (3) These Indian male adults are mostly immigrants from the villages in Southern India and were not infected during childhood. They are very vulnerable and susceptible when exposed to infection in an endemic area like Singapore.
- (4) Indians as a whole are more conscious of the good treatment facilities in hospital.

Tropical Typhus

692. There were no cases of Tropical Typhus admitted during the year.

Measles

693. 200 cases of measles were admitted with 13 deaths. All these cases died of Broncho-pneumonia complicating Measles.

Dysentery

<i>Types of Dysentery</i>		<i>Admissions</i>	<i>Deaths</i>
Amœbic	...	136	—
Bacillary	...	17	—
Clinical	...	35	—
Total		188	—

694. Of the 17 cases of Bacillary Dysentery, 12 were type Flexner and 5 Sonne.

Acute Anterior Poliomyelitis

ADMISSIONS AND DEATHS BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Cases ..	3	6	3	1	4	..	1	..	..	1	..	..	19
Deaths ..	..	..	..	..	1	..	1*	..	..	..	..	..	2*

AGE GROUP, SEX AND TYPES OF CASES OF POLIOMYELITIS

Age	Under 1 year		1-2 years		3-5 years		6-10 years		11-15 years		15-20 years		20* years	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Paralytic ..	2	..	3	3	3	3	2	2	..	..	..	..	1	..
Non-Paralytic ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Cases ..	2	..	3	3	3	3	2	2	..	..	..	..	1	..
Deaths ..	..	..	..	..	..	..	..	..	..	..	..	..	2*	..

* Includes one patient who was in an iron-lung for 5½ years in this hospital, died during the year.

ADMISSIONS AND DEATHS BY ETHNIC GROUP AND SEX

			<i>Admissions</i>		<i>Deaths</i>	
			<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>
Europeans	...	...	1	—	1	—
Eurasians	...	...	1	—	—	—
Chinese	...	...	8	6	—	—
Indians and Pakistanis	...	...	1	2	1	—
Malays	...	...	—	—	—	—
Total			11	8	2	—

695. There was no outbreak of this disease. 19 cases were admitted during the year, and with 31 cases remaining from the previous year, a total of 50 cases were treated.

696. Two cases died during the year: one who had been in an iron-lung for 5½ years, and the other, an European adult, died after four days with an ascending paralysis involving the cardiac and respiratory centres.

697. The number of Poliomyelitis admissions is on the decline, as there was only one case admitted since August, 1955. There were 70 cases admitted with two deaths during 1954. An average of 20 patients are receiving Physiotherapy treatment daily.

698. *Other Diseases*

Disease			Remaining from 1954	Admitted	Dis- charged	Died	Remaining
Acute Tonsillitis	..	..	1	105	104	..	2
Acute Laryngitis	..	..	..	10	9	1	..
Ascariasis	..	..	1	5	6	..	..
Pyrexia of unknown origin	..	..	..	1	1	..	..
T.B. Spine	..	..	..	1	1	..	..
Pyelitis	..	..	..	1	1	..	..
Influenza	..	..	..	4	4	..	..
Bronchopneumonia	..	..	..	10	4	5	1
Pneumonitis	..	..	..	1	1	..	..
Bronchitis	..	..	..	4	4	..	..
Asthmatic Bronchitis	..	..	..	4	3	1	..
Ulcer Soft Palate	..	..	..	1	1	..	..
Thrush	..	..	..	1	1	..	..
Haemorrhoids	..	..	..	4	4	..	..
Stomatitis	..	..	..	5	5	..	..
Gastro-enteritis	..	..	..	13	11	1	1
Carcinoma Rectum	..	..	..	1	1	..	..
Herpes Zoster	..	..	..	1	1	..	..
Congenital Heart Dis.	..	..	..	1	1	..	..
Post Diph. Paralysis	..	..	..	1	1	..	..
Impetigo	..	..	..	1	1	..	..
Non-pyogenic Arthritis	..	..	..	2	2	..	..
Malnutrition	..	..	..	1	1	..	..
Cervical Adenitis	..	..	..	1	1	..	..
Total	..	..	2	179	169	8	4

ADMISSION OF THE IMPORTANT DISEASES FOR THE LAST 10 YEARS

Diseases		1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Small-pox	..	99	41	5	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	1	..	..	..	..	..	..	..	..	..
Chickenpox	..	256	323	313	373	422	610	450	836	1,313	1,769
Measles	..	206	54	41	194	50	204	142	117	182	200
Rubella	..	5	49	5	6	1	11	9	..	1	..
Diphtheria	..	140	137	184	218	222	370	427	332	345	460
Cerebro-spinal Meningitis	..	6	15	7	4	4	4	2	4	2	..
Typhoid Fever	..	74	59	53	62	88	91	117	91	125	114
Acute Ant. Poliomyelitis	..	137	..	134	68	81	78	50	41	70	19
Erysipelas	..	..	2	15	15	12	4	3	..	3	..
Whooping Cough	..	34	12	6	8	27	5	3	..	10	5
Scarlet Fever	..	..	..	..	..	..	79	..	..	..	..
Mumps	..	42	191	30	3	14	..	15	9	35	54
Tropical Typhus	..	3	1	6	8	3	7	92	4	7	..
Amoebic Dysentery	..	95	89	65	106	90	105	22	134	122	136
Bacillary Dysentery	..	15	5	1	11	9	18	9	25	18	17
Clinical Dysentery	..	48	6	40	..	17	40	..	16	34	35
Other diseases, carriers and observations	..	540	405	893	602	731	591	455	440	647	503
Total	..	1,701	1,389	1,798	1,678	1,771	2,217	1,796	2,049	2,914	3,312

ETHNIC GROUPS AND NUMBER OF DAYS IN HOSPITAL

Race	REMAINING 1954		ADMITTED 1955		TOTAL	
	No. of Patients	No. of days in Hospital	No. of Patients	No. of days in Hospital	No. of Patients	No. of days in Hospital
Europeans ..	..	..	25	154	25	154
Eurasians ..	1	1	82	724	83	725
Chinese ..	85	5,637	1,670	20,387	1,755	26,024
Indians and Pakist. ..	21	361	1,152	9,744	1,173	10,105
Malays ..	5	48	278	2,362	283	2,410
Javanese ..	..	..	30	234	30	234
Others ..	2	7	75	623	77	630
Total ..	114	6,054	3,312	34,228	3,426	40,282

SEX	Remained 1954	Admitted 1955	Total Treated	Discharged	Transferred	Absconded	Died	Total	Remaining at end of 1955	Per cent Deaths	Average daily No. of patients	No. of beds
Male	76	2,214	2,290	2,174	19	..	42	2,235	55			
Female	38	1,098	1,136	1,055	12	..	28	1,095	41			
Total ..	114	3,312	3,426	3,229	31	..	70	3,330	96	2.11	106.9	200

Hospital improvements completed in 1955

- (1) Expansion and modernization of the kitchen.
- (2) Ambulance garage with facilities for disinfection.
- (3) Water storage tanks.
- (4) Tiling of Ward bath-rooms and latrines.

Under construction: (1) A 30-bed cubicle ward.

(2) Staff canteen and changing-rooms.

Dr. Ng See Yook, L.M.S. (Singapore), D.P.H., Medical Superintendent, was in office during the year under review.

CHAPTER TWENTY-SEVEN

OTHER SPECIAL DEPARTMENTS

PRISON HOSPITALS

Changi

699. The work of the Changi Prison Hospital, the Changi Camp and Staff Families' Clinic was carried on by a part-time Medical Officer, three Hospital Assistants and three prisoner orderlies.

700. The Medical Officer visited the prison every morning for about an hour and was on twenty-four-hour call for emergency cases. Rounds of the prison and camp were made once a week. During these, the general health of the prisoners and sanitation of the prison were inspected.

701. The Medical Officer examined and treated members of the Prison Staff and their families at the Staff Families' Clinic and made home visits whenever necessary. 3,108 cases were seen and treated as against 3,211 the previous year.

702. The Hospital Assistants made two daily rounds of the Changi Prison and Camp, treated minor cases, inspected food and assisted the Medical Officer at the Clinics. One Hospital Assistant was always on 24-hour call.

703. A Dental Officer made weekly visits to the Prison Hospital and Camp.

704. A high standard of health and sanitation was maintained throughout the year. The daily average number of offenders in the Prison and Camp was 462. The number of patients admitted to the Prison Hospital was 265 as against 158 the previous year, and the daily average was 22. This increase was probably due to the admission of aged and feeble vagrants in the Prison and Camp during the year. Because of poor health, some of them were repeatedly taken into hospital for special care and treatment.

705. A total of 34 tuberculous patients was treated; of these eight remain. The majority of these patients were quiescent or healed cases and required little treatment other than rest and nourishing food.

706. There was one death in the prison during the year 1955.

707. The total number of out-patients treated at the Prison Hospital and Camp Clinic was 44,781 as against 50,866 the previous year. The daily average number was 122. Of these, an average of 15 was seen by the Medical Officer daily, the others treated by the Hospital Assistants.

708. The principal diseases were upper respiratory infections, fevers, diarrhoea and skin diseases. Only minor operations were performed at the prison hospital. The total number was 62.

709. The Dental Officer treated a total of 272 cases—cementing 35, extractions 233, while dentures were supplied to four offenders.

710. Ten prisoners were given spectacles.

711. The diet was adequate and nutritious. Regular inspections were made of the raw and cooked food, and rations poor in quality rejected. Special rations of eggs, milk and butter were given to hospital patients, especially those with Pulmonary Tuberculosis.

Pearls Hill

712. The present medical staff consists of the Medical Officer and four Hospital Assistants, assisted by three prisoner orderlies.

713. The Medical Officer is on 24-hour call for emergency cases. There is always one hospital assistant on 24-hour call duty and the hospital assistant on night duty makes a round of the hospital nightly. Food inspection is done early in the morning. A Dental Surgeon visits the prison weekly and treats dental cases.

714. The standard of health and of cleanliness was good throughout the year. There were no epidemics.

715. A total of 1,588 cases were admitted into the Prison Hospital during the year as compared with 693 in 1954.

716. There were 160 cases of pulmonary tuberculosis (as compared with 82 cases in 1954); two cases of chicken pox, 10 cases of leprosy and two cases of mumps.

717. The great increase in hospital admissions was due to the decision by the Government to institute treatment for opium addicts, as provided for by the Dangerous Drugs (Temporary Provisions) Ordinance of 1954. A separate report of the work of the Opium Treatment Centres is included. The Medical Officer, H.M. Local Prison is also the gazetted Medical Officer-in-charge, Opium Treatment Centre, St. John's Island. In the Prison Hospital a total of 1,077 opium addicts were admitted. Of these 1,034 had been remanded under the above Ordinance. All opium addicts, upon being remanded, were admitted into hospital for a period of two to four weeks for treatment and observation during the withdrawal of opium phase. After this, they appeared in court and some were selected to go to the Opium Treatment Centre, St. John's Island. The addicts who were rejected for rehabilitation at St. John's Island usually were sentenced to three months' imprisonment. Those suffering from tuberculosis or other diseases were re-admitted into Hospital.

718. With this increase in the number of admissions and the number of tuberculous patients, the bed situation in the Prison Hospital became acute. This is shown by the fact that whereas the number of beds in the hospital was 100 (in real fact 80 beds, since leper hospital takes up 16 beds and isolation ward 4 beds) the average daily number of in-patients was 102, as compared with 34 in 1954.

719. There were two deaths in the Prison Hospital, one due to pneumonia and one suicide by hanging. Three deaths occurred in the cells, all due to suicide by hanging.

720. There were no executions.

721. Of the cases transferred from the Prison to other hospitals, five deaths occurred in the General Hospital, and one in Woodbridge Hospital. Transfers to other hospitals were as follows:—

10 patients to Woodbridge Hospital

2 patients to Trafalgar Home

1 patient to Middleton Hospital

3 patients to Kandang Kerbau Hospital

722. All prisoners were vaccinated as a routine and a total of 5,630 vaccinations was done. 133 inoculations against cholera were given.

723. The total number of admissions into the Prison, criminals, remands and vagrants was 5,940. The daily average number of prisoners was 780.

724. The total number of out-patients treated was 18,987. Of these 5,272 were new cases and 13,715 were repeats. The out-patient clinic for the treatment of warders and their families was carried on as before. A total of 390 cases was treated.

725. The Dental Surgeon treated a total of 741 patients. There were 624 extractions, 213 fillings and 19 denture cases.

OPIUM TREATMENT CENTRE, ST. JOHN'S ISLAND

726. Before 1955 there was no organised system of dealing with opium addicts committed to prison under the Dangerous Drugs Ordinance 1951, from the point of view of treatment and rehabilitation. Those convicted served terms of imprisonment varying from four weeks to three or more months. There was no discrimination between those convicted under this ordinance and convicts committed to prison for criminal offences.

727. These addicts came under the care of the Medical Officer i/c H.M. Local Prison, and those who were ill were admitted into the Prison Hospital. Many suddenly deprived of opium developed withdrawal symptoms and were treated with liberal quantities of opium mixtures, codeine tablets and sedatives. After serving their terms of imprisonment, they were released. No follow-up was done or was possible as they had served their sentence for their "crime". Imprisonment may have acted as a deterrent and no doubt a certain number were cured permanently of the habit, the exact number of which is not known.

728. On 8th February, 1955, under the Dangerous Drugs (Temporary Provisions) Ordinance 1954, Opium Treatment Centres were established at three places specified below:—

- (1) St. John's Island (West) ... for male opium addicts and volunteers.
- (2) Ward 36, General Hospital,
Singapore ... for specially selected addicts including volunteers.
- (3) "A" Block, Female Prison,
Outram Road, Singapore ... for female addicts including volunteers.

729. The ordinance also provides for the establishment of an Advisory Committee consisting of the Superintendent, the Medical Officer and the Rehabilitation Officer, Opium Treatment Centre, to investigate into the addict's background, addiction history and general health, and make recommendations to the Courts. Addicts so recommended were sentenced to undergo rehabilitation at a Centre, in the case of males at St. John's Island, and in the case of females at the Female Prison Outram Road. Those rejected were sentenced to a term of imprisonment in the Local Prison.

730. During 1955 the Advisory Committee investigated and reviewed 976 cases, and of this number 279 were accepted for rehabilitation and 697 rejected. This careful selection was necessary as it was not possible to deal with all arrested addicts at St. John's Island, which was equipped to deal with about 200 inmates at any one period.

731. As the Advisory Committee was without previous experience, it was generally decided to accept for rehabilitation only those addicts who were free from disease and of a moderate addiction history. These selected addicts, it was felt, would benefit from the treatment and rehabilitation with a reasonable chance of overcoming addiction.

732. The main reasons for rejection were:—

(a) Chronic disease—mainly tuberculosis.

(b) Advanced general debility with senility—it was decided to reject those who were over 50 years with poor health.

(c) History of a prolonged period of addiction—those who have been addicted for over 20 years.

733. A few, though young and fit, were rejected on the grounds of their bad character or criminal record, as it was essential that discipline at the Treatment Centres be maintained.

734. All addicts after being remanded were immediately admitted into the hospital at the Local Prison, Outram Road. The method of treatment adopted was the gradual withdrawal of opium over a period of seven to fourteen days. Tincture Opii and Tincture Camphor Co. were used to relieve the more serious withdrawal symptoms. The Tincture Opii was given in a mixture with Sodium Bromide and Chloral Hydrate. After a period of seven to ten days, these drugs were withdrawn and no further opium preparations were used.

735. This regime was commenced immediately after the initial medical examination, which was usually on the second day of the addict's arrest, as they were usually admitted from the Courts in the evening and medically examined the next morning. They were therefore without the drug for about 24 hours. The dosage of Tr. Opii and Tr. Camph. Co. given was intended to relieve the more severe symptoms of withdrawal.

736. The clinical symptoms and signs of withdrawal noted included lachrymation, nasal discharge, yawning, a feeling of coldness, a desire to lie down all day, aches all over the body, muscle tremors, sleeplessness, loss of appetite, intestinal upsets, including diarrhoea and vomiting, emotional disturbances, including hysterical manifestations, and rarely collapse.

737. In young and fit addicts without disease, the symptoms passed off after three to ten days. This was not so with the very old, the debilitated and those suffering from tuberculosis and other chronic diseases. They were less able to withstand opium withdrawal and required longer hospitalisation, the specific treatment of diseases they were suffering from, with supportive measures.

738. By the time addicts were sent to St. John's Island, they had all recovered from the craving for opium. The main theme in this centre was rehabilitation and re-education. They were admitted into the hospital at the Centre for a period of one week for observation and then allotted to various occupations. These included carpentry, tailoring, rattan work, laundry, cook-house and general labour. They work under ideal conditions and an adequate diet is provided with regular sea-bathing and physical training. A resident Medical Officer at St. John's Island attended to their medical needs and a daily out-patient clinic was run. Most of the complaints encountered were the usual complaints met with in other out-patient clinics elsewhere. There were no cases of illness directly attributable to the withdrawal of opium.

739. On February 14th, when the Opium Treatment Centre, St. John's Island, was opened, nine convicted addicts and three volunteers were admitted. During 1955 a total of 284 male addicts were admitted to this centre including five volunteers. 159 addicts were discharged during the year. One addict was transferred to the General Hospital in Singapore and later died there. The cause of death was chronic nephritis with pulmonary oedema. At the end of the year the number of addicts on the Island was 125.

740. At the end of the first month's stay on the Island the average gain in weight was six pounds. By the time the addicts were released, a period varying from three to six months, the average gain in weight of each addict was 14 pounds.

741. The Advisory Committee interviewed a total of 42 female addicts. Of these seven were accepted for rehabilitation and 35 rejected. At the end of the year all seven were released and no addicts remained.

742. The method of treatment was similar to that for the males. In their rehabilitation their occupations were limited to sewing, artificial flower-making and similar work.

743. Two female addicts were released in August, three in September and two in December.

744. Volunteers, both male and female, were accepted for treatment and rehabilitation. In 1955 there were five male volunteers and one female volunteer.

745. As the volunteers were not remanded from court, special arrangements were made by the Medical Officer to examine them at the General Hospital and not in Prison. After being accepted for treatment, they were admitted into Ward 36 of the General Hospital, Singapore, in the case of male volunteers, and in the case of the female volunteers in the Female Prison.

746. Two volunteers, one male and one female, admitted in the latter months of the year and who came under the observation of the present Medical Officer, overcame the withdrawal period very satisfactorily. This was undoubtedly due to their strong determination to rid themselves of addiction. Volunteers were released unconditionally at the end of three months. By the end of the year all volunteers, five males and one female had been released.

747. After staying on the Island for a period of three to six months, each addict was reviewed by the Advisory Committee and, if judged sufficiently rehabilitated and fit physically and mentally to be discharged, he was recommended for release on licence. On release he came under the supervision of the Rehabilitation Officer who arranged for his re-employment, visited his home and interviewed him at monthly intervals. After a period of three months he was re-examined by the Medical Officer of the Opium Treatment Centre for any deterioration in health and for evidence of relapse of addiction.

748. Up to date 14 released addicts have been examined by the Medical Officer; all appeared to have maintained their health and none has apparently relapsed.

749. Up to the end of 1955 there have been no re-arrests of persons released from the Opium Treatment Centre, nor were there readmissions of volunteers treated at the Centre.

750. The initial result of treatment and rehabilitation has been very encouraging and, while it is too early to assess whether permanent cure has in fact been effected in those who have undergone treatment, the experiment should be allowed to continue so that a proper assessment may be made on its value.

751. The basic principles underlying the course of withdrawal and rehabilitation have been to impress on the addicts that:—

- (a) they are able to withstand withdrawal of opium without danger to life and deterioration in health;
- (b) that they are able to undertake manual work without the aid of opium to allay fatigue;
- (c) the distressing symptoms of illnesses may be abated by efficient medical treatment and not by resorting to opium smoking.

752. The process of re-education has helped to build their self-confidence and to seek the aid of medical advice in matters of health and in social problems, the advice of the Rehabilitation Officer.

753. The Ordinance makes it obligatory for an addict discharged on licence to report regularly to the Rehabilitation Officer and the Medical Officer of the Opium Treatment Centre for a period of one year. This period is insufficient for effective follow-up and assessment of the results of treatment. A great deal will depend on these ex-addicts coming to seek advice from the Advisory Committee in circumstances which are likely to lead them to seek the influence of the drug after their period of surveillance is over.

754. There is no reliable test by which relapse of addiction to opium can be tested; it is the gradual deterioration in health and the change in personality and habits which are indicative of this condition and this is where the value of follow-up and repeated medical examinations is of the greatest importance for the future welfare of these unfortunate people.

755. In the present experiment stress has been laid on the investigation of an arrested addict into his background and health. With the release of further addicts from the Centres, the problem of efficient follow-up of increasing numbers of ex-addicts will have to be faced and it will become necessary to expand the organisation to cover this important side of treatment.

756. There are no reliable reports of the estimated number of opium addicts in Singapore and those who have been arrested can only represent but a fraction of this number. Of those who have been arrested only 28 per cent have been found suitable for rehabilitation in the limited accommodation now available, leaving the 72 per cent of addicts who are unsuitable and who today are cluttering up the houses of detention and prison hospitals. Unless further accommodation is found to house these unfortunate persons, further detention of addicts under this ordinance will become impracticable.

CIVIL MEDICAL DEFENCE

757. In the report on Civil Medical Defence for previous years, details are given of the Civil Medical Health Defence plans. The Medical Defence Plan calls for the formation of a number of Casualty Hospitals, the establishment of First-Aid Services and the expansion of the Ancillary Services. The Health Defence Plan provides for the maintenance of essential Public Health Services, a Health Officer being responsible for the Public Health Services in each of the Civil Defence sub-control areas. Under this plan it is proposed to establish Hygiene, Public Health Cleansing and Essential Services

Engineering Units in each of these areas, while provision is made for the maintenance of certain other Services including the Hospital for Infectious Diseases and the expansion of the Public Health Laboratory Services.

758. Due to the proposals for the establishment of local government districts and the uncertainty as to the responsibility in the future for the administration of some important medical and health services, it was considered that little useful purpose could be served in revision of either plan, the main principles of which must remain unchanged, more particularly that of mobility and the ability to re-inforce any area as required.

Singapore Hospital Reserve

759. The Singapore Hospital Reserve is now in its fourth year. It is a voluntary body formed under the Civil Defence (Singapore Hospital Reserve Formation) Rules, 1952, the intention being that volunteers should be trained in peacetime in order to augment the permanent hospital staff in an emergency. All nursing members of the Reserve are required to hold First-Aid and Home Nursing Certificates of one of the voluntary associations and to undergo instruction in the wards of the General Hospital.

760. The administration of the Reserve is carried out by the Civil Defence Commissioner.

761. The strength of the Reserve at the end of the year was 826 as compared with 698 at the end of 1954. The enrolment figure for the year can be considered satisfactory as the training facilities at the General Hospital limit the number undergoing training at any one time.

762. Seven examinations to qualify as Nursing Auxiliary "A" and Nursing Auxiliary "B" were held during the year. Candidates for these examinations, which entail a high standard, are required to complete 160 hours hospital training and 120 hours hospital training respectively, and then to pass an examination conducted by the Senior Tutor Sister of the School of Nursing at the General Hospital. The results of these examinations were very satisfactory and gradually a hard core of really well-trained personnel is being built up.

763. Four exercises were held during the year in conjunction with the Civil Defence Corps, and approximately 60 Reservists participated in each.

764. The role of the Reserve was carried out by the setting up of Emergency Hospital Wards and providing Mobile First-Aid Teams on the exercise ground of the Civil Defence Headquarters at Kolam Ayer Lane. As the functions of these Units were performed very creditably without the additional "stiffening" of members of the permanent staff, it may be accepted that the services of trained members of the Reserve in an emergency will be of considerable value.

765. An Island-Wide Exercise was held in October and 120 members of the Reserve participated. They were responsible for the manning and operation of first-aid posts, admission room, casualty room and hospital ward and also for manning four mobile first-aid teams who were sent to various parts of the Island. The exercise was very successful and the Reserve learned many lessons from it.

766. It is a special pleasure to acknowledge the assistance the Reserve has received from the Staff of the Civil Defence Department, the Tutorial Staff of the General Hospital and the Superintendent, Government Medical Stores.

Medical Stores and Equipment.

767. The Reserve Medical Stores and Equipment continued under the direct charge of the Superintending Pharmaceutical Chemist. The policy of issuing certain items of equipment likely to suffer deterioration to the hospitals against savings in the Hospital Votes was continued.

768. Provision was made in the 1956 Estimates for the purchase of dental stores and equipment, and of water tanks and equipment which are the basis for the formation of mobile water-carrier units which have an essential role in the Medical Defence Plan should sudden failure of the water supply occur.

769. Items to provide for the expansion of the Drug Manufactory and Bloon Transfusion Service came to hand during the year. With the continued expansion of the medical services, some of these items proved of immediate value to the department.

APPENDICES

APPENDIX I
FINANCIAL STATEMENT FOR THE YEAR 1955

(a) RECEIPTS

<i>Hospital Fees, etc.</i>	<i>Medical General and Health</i>	<i>Total</i>
\$1,208,931.09	\$341,535.56	\$1,550,466.65

(b) PAYMENTS

	Medical General	Hospitals and Dispensaries	Health Branch	Social Hygiene Branch	Government Medical Store	Total
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Personal Emoluments	1,552,630 93	10,905,282 75	1,541,540 15	363,913 40	278,539 63	14,641,906 86
Other Charges, Annually Recurrent ..	287,116 72	6,579,572 96	813,702 21	115,412 91	405,524 85	8,201,329 65
Other Charges, Special Expenditure ..	78,852 84	739,692 43	26,632 46	3,039 80	38,242 26	886,459 79
Development	26,582 29	..	141,145 70	..	..	167,727 99
P. W. D. Non-Recurrent (For Medical—Ordinary Estimates)	89,594 14	..	..	..	..	89,594 14
P. W. D. Non-Recurrent (For Medical—Develop- ment Estimates) .. ..	..	4,883,796 37	..	..	..	4,883,796 37
Total ..	2,034,776 92	23,108,344 51	2,523,020 52	482,366 11	722,306 74	28,870,814 80

IN-PATIENTS ALL HOSPITALS FOR THE YEAR 1955

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COLONY OF SINGAPORE

The following table shows the hospitals maintained by the Medical Department, Singapore, the daily average number of patients in each, the number of patients admitted during the year, the total number of patients treated, the number of deaths and the death rate per hundred treated (the Quarantine Hospital and Leper Settlement are not included).

Hospitals	Average No. of patients	Admissions during the year	CASES TREATED DURING THE YEAR			Deaths	Mortality per cent
			Male	Female	Total		
General Hospital	850.08	27,418	19,231	8,991	28,222	2,318	8.21
T.T.S.H. (T.B. and General)	543.06	1,995	2,080	470	2,550	207	8.12
K.K.M. Hospital .. { Maternity Gynaecology .. }	278.00	29,534	..	29,845	29,845	74	.25
Police Headquarters, Thomson Road	4.85	408	416	..	416	1	.24
H. M. Prison, Outram Road	102.35	1,588	1,646	..	1,646	2	.12
H. M. Prison, Changi	22.00	249	265	..	265	1	.38
Woodbridge Hospital	1,915.00	1,433	2,038	1,312	3,350	90	2.69
St. Andrew's Orthopaedic Hospital	119.15	132	141	112	253	..	..
Social Hygiene Hospital	27.20	1,381	365	1,042	1,407	3	.21
Middleton Hospital	106.90	3,312	2,290	1,136	3,426	70	2.04
Total (including 208 transfers and 25 healthy persons admitted to hospital to accompany children or friend) .. .. .	..	67,450	28,472	42,908	71,380	2,766	3.88

N.B.:—Total cases treated in 1954: 66,611.

OUT-PATIENTS

Total Attendances at the Out-Patients Clinics during the year 1955, were distributed as follows

Hospitals	New Cases	Repetitions	Total attendances
General Hospital	209,252	475,177	684,429
In addition M.O. i/c. Officials	6,635		6,635
K.K.M. Hospital	41,416	55,199	96,615
{ Antenatal and Post-natal	18,552	46,401	64,953
{ O.P.D. Dr. H. Tan	4,738	27,560	32,298
{ General	1,787	174,782	176,569
{ Rotary	548	25,085	25,633
{ Leper	25,341	158,692	184,033
Social Hygiene Hospital	2,542	6,775	9,317
Police Depot (Thomson Road)	4,607	19,493	24,100
Police Families	22,967	35,500	58,467
{ North Canal Road	3,310	3,539	6,849
{ Paya Lebar	1,885	1,256	3,141
{ Telok Kurau	1,121	509	1,630
{ Bukit Panjang			
School Clinics			
<i>Static, Floating and Travelling Dispensaries</i>			
Paya Lebar O.P.D.	11,077	27,343	38,420
Bukit Timah O.P.D.	9,349	15,463	24,812
Bukit Panjang O.P.D.	5,626	7,534	13,160
Holland Road O.P.D.	2,826	3,706	6,532
Thomson Road	4,233	7,018	11,251
Floating Dispensaries	1,183	2,365	3,548
Travelling Dispensaries	43,587	25,653	69,240
Total	422,582	1,119,050	1,541,632

Excluding the Prisons, Maternity and Child Health Clinics.

HOSPITALS, COLONY OF SINGAPORE, IN-PATIENTS

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955

According to the Intermediate List adapted for use in Singapore, of the 1948 (6th) International List of Diseases and Causes of Death

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		I.— <i>Infective and Parasitic Diseases</i>						
A 1	001-008	Tuberculosis of respiratory system ..	502	2,594	257	3,096	520	
A 2	010	Tuberculosis of meninges and central nervous system ..	15	170	101	185	10	
A 3	011	Tuberculosis of intestines, peritoneum and mesenteric glands ..	1	27	7	28	..	
A 4		Tuberculosis of bones and joints:—						
	012.0, 013.0	Tuberculosis of the vertebral column ..	96	220	7	316	122	
(a)	012, 013	} Tuberculosis of other bones and joints	71	183	..	254	76	
(b)	012.0, 013.0							
A 5	014	Tuberculosis, all other forms:—						
(a)		Tuberculosis of skin and subcutaneous cellular tissue ..	..	7	..	7	..	
(b)	015	Tuberculosis of lymphatic system ..	..	56	..	56	3	
(c)	016	Tuberculosis of genito-urinary system	1	46	..	47	2	
(d)	017	Tuberculosis of adrenal glands ..	..	..	..	..	..
(e)	018	Tuberculosis of other organs ..	..	7	..	7	2	
(f)	019	Disseminated tuberculosis	2	27	9	29	2	
		<i>Carried forward</i> ..	688	3,337	381	4,025	737	

The headings are taken from the Intermediate List of 150 Causes for Tabulation of Morbidity and Mortality as published in the 'Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death' (Sixth Revision of the International Lists of Diseases and Causes of Death, 1948).

Reference should be made to the Detailed List of the Diseases published on pages 45 to 321 of Volume I of the above Manual whenever there is any doubt about the entry in the list.

* *i.e.* the year previous to that for which the return is made.

† 'Total cases treated' will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	688	3,337	381	4,025	737	
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>						
A 6	020	Congenital syphilis ..	..	48	..	48	1	
A 7	021.0, 021.1	Early Syphilis:—	..	4	..	4	..	
(a)	021.2	Primary syphilis ..	..	14	..	14	..	
(b)	021.3	Secondary syphilis ..	..	..	..	..	..
(c)		Early syphilis, relapse following treat- ment ..	..	3	..	3	..	
(d)	021.4	Early syphilis (unspecified stage)	..	32	1	39	3	
A 8	024	Tabes dorsalis ..	7	24	..	24	6	
A 9	025	General paralysis of insane ..	..	33	10	33	..	
A 10		All other syphilis:—	..	81	6	81	..	
(a)	022	Aneurysm of aorta ..	..	64	1	72	4	
(b)	023	Other cardiovascular syphilis ..	8	62	..	63	2	
(c)	026	Other syphilis of central nervous system	1	395	..	398	1	
(d)	027	Other forms of late syphilis ..	3	11	..	11	1	
(e)	028	Latent syphilis ..	..	97	..	97	..	
(f)	029	Syphilis, unqualified ..	..	2	..	2	..	
A 11		Gonococcal infections:—	..	17	1	17	1	
(a)	030	Acute or unspecified gonorrhoea ..	..	39	..	39	..	
(b)	031	Chronic gonococcal infection of genito- urinary system ..	..	1	..	1	1	
(c)	032	Gonococcal infection of joint ..	..	..	..	..	..
(d)	033	Gonococcal infection of eye ..	..	..	..	..	..
(e)	034-035	Gonococcal infection of other sites ..	..	..	..	..	..
		<i>Carried forward</i> ..	707	4,264	400	4,971	757	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward ..</i>	707	4,264	400	4,971	757	
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>						
A 12	040	Typhoid fever	12	174	8	186	7	
A 13		Paratyphoid fever and other Salmonella infections:—						
	041	Paratyphoid fever A, B or C	..	3	..	3	..	
(a)	042	Other Salmonella infections	..	..	..	..	..
A 14	043	Cholera	..	..	..	..	..
A 15	044	Brucellosis (undulant fever)	..	..	..	..	..
A 16		Dysentery, all forms:—						
	045	Bacillary dysentery	1	32	1	33	1	
(a)	046	Amoebiasis	11	249	8	260	7	
(b)		Other protozoal and unspecified forms of dysentery	..	46	..	46	2	
(c)	047-048	Scarlet fever	..	..	..	..	..
A 17	050	Streptococcal sore throat	..	..	..	..	..
A 18	051	Erysipelas	..	8	..	8	..	
A 19	052	Septicæmia and pyæmia	..	..	..	..	..
A 20	053	Diphtheria	..	21	14	21	1	
A 21	055	Whooping Cough	25	579	43	604	37	
A 22	056	Meningococcal infections	..	9	..	9	1	
A 23	057	Plague:—	..	4	1	4	..	
A 24	058	Bubonic	..	..	..	..	..
(a)	058.0	Pneumonic	..	..	..	..	..
(b)	058.1	Other Plague	..	..	..	..	..
(c)	058.2	Leprosy	..	75	..	80	3	
A 25	060		5					
		<i>Carried forward ..</i>	761	5,464	475	6,225	816	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	761	5,464	475	6,225	816	
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>						
A 26	061	Tetanus:— Tetanus of the new-born Tetanus, other forms ..	.. 4	16 89	13 32	16 93	1 2	
A 27	062	Anthrax ..	.. 31	.. 24	.. 2	.. 55	.. 19	
A 28	080	Acute Poliomyelitis ..	..	4	1	4	..	
A 29	082	Acute infectious encephalitis ..	..				
A 30	081, 083	Late effects of acute poliomyelitis and acute infectious encephalitis ..	6	49	..	55	9	
A 31	084	Small-pox ..	.. 5	.. 203	.. 13	.. 208	.. 2	
A 32	085	Measles ..	..				
A 33	091	Yellow fever ..	.. 6	.. 289	.. 16	.. 295	.. 12	
A 34	092	Infectious hepatitis ..	..				
A 35	094	Rabies ..	..	..	..	..	..
A 36	100	Typhus and other rickettsial diseases:—						
	101	Louse-borne epidemic typhus ..	..	1	..	1	..	
	104	Flea-borne epidemic typhus (murine) ..	..	5	..	5	..	
	105	Tick-borne epidemic typhus ..	..	.. 10	..	.. 10	..	
	102-103 } 106-108 }	Mite-borne typhus ..	..	4	..	4	..	
		Other and unspecified typhus ..	..				
		<i>Carried forward</i> ..	813	6,158	552	6,971	861	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	813	6,158	552	6,971	861	
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>						
		Malaria:—						
A 37	(a)	Vivax malaria (benign tertian)	..	45	..	45	..	
	(b)	Malariae malaria (quartan)	..	1	..	1	..	
	(c)	Falciparum malaria (malignant tertian)	..	38	4	38	1	
	(d)	Mixed malaria infections	..	2	..	2	..	
	(e)	Blackwater fever	..	..	..	..	..
	(f)	Other and unspecified forms of malaria	..	15	..	15	1	
		Schistosomiasis:—						
A 38	(a)	Schistosomiasis vesical (S. haematobium)	..	..	..	..	..
	(b)	Schistosomiasis intestinal (S. Mansonii)	..	..	..	..	..
	(c)	Schistosomiasis Pulmonary (S. Japonicum)	..	..	..	..	..
	(d)	Other and unspecified Schistosomiasis	..	..	..	..	..
A 39	125	Hydatid disease ..	..	..	..	..	..
A 40	127	Filariasis ..	..	36	..	36	1	
A 41	129	Ankylostomiasis..	2	53	..	55	1	
		Other diseases due to helminths:—						
A 42	124	Other trematode infestation	..	5	..	5	..	
		<i>Carried forward</i> ..	815	6,353	556	7,168	865	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	815	6,353	556	7,168	865	
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>						
A 42	(b)	Tape worm (infestation) and other cestode infestation ..	..	5	..	5	..	
	(c)	Trichiniasis ..	..	..	..	..	..
	(d)	Ascariasis ..	..	101	3	101	1	
	(e)	Other diseases due to helminths All other diseases classified as infective and parasitic:—	1	7	..	8	..	
		Chancroid ..	..	3	..	3	..	
A 43	(a)	Lymphogranuloma Venereum ..	1	6	..	7	..	
	(b)	Granuloma inguinale, venereal ..	..	1	..	1	..	
	(c)	Other and unspecified venereal diseases ..	3	375	..	378	..	
	(d)	Food poisoning (infection and intoxi- cation) ..	..	13	..	13	..	
	(e)	Tularæmia ..	..	..	..	..	..
	(f)	Gas Gangrene ..	..	1	..	1	..	
	(g)	Glanders ..	..	..	..	..	..
	(h)	Melioidosis ..	..	..	..	..	..
	(i)	Other bacterial diseases ..	..	..	..	..	..
	(j)	Vincent's infection ..	..	..	..	..	..
(k)		Relapsing fever ..	..	..	..	..	..
	(l)	Leptospirosis icterohaemorrhagica (Weil's disease) ..	..	23	1	23	1	
	(m)	Yaws ..	..	1	..	1	..	
	(n)		..	..	..	..	..
		<i>Carried forward</i> ..	820	6,889	560	7,709	867	

APPENDIX IV—continued
 RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	820	6,889	560	7,709	867	
		<i>I.—Infective and Parasitic Diseases</i> <i>—contd.</i>						
A 43	(o) 086	Rubella (German measles)	.. 26	2	.. 1	2	.. 18	
	(p) 087	Chicken-pox ..	1	1,773	..	1,799	..	
	(q) 088	Herpes Zoster ..	3	30	..	31	2	
	(r) 089	Mumps ..	..	90	..	93	..	
	(s) 090	Dengue ..	..	7	..	7	..	
	(t) 093	Glandular fever ..	..	..	..	..	..
	(u) 095	Trachoma ..	5	.. 82	..	.. 87	3	
	(v) 096.7	Sandfly fever ..	..	..	..	..	..
	(w) 120	Leishmaniasis ..	..	2	..	2	..	
	(x) 121.0	Trypanosomiasis gambiensiis	..	..	..	..	..
	(y) 121.0	Trypanosomiasis rhodesiensiis	..	..	..	..	..
	(z) 121	Other and unspecified trypanosomiasis	..	..	..	..	..
	(A) 131	Dermatophytosis ..	..	1	..	1	..	
	(B) 132	Actinomycosis ..	..	..	..	..	..
	(C) 133, 134	Other fungus infections ..	..	11	..	11	..	
	(D) 135	Scabies ..	..	7	..	7	..	
	(E) 054, 074	All other diseases classified as infective and parasitic	..	..	..	..	..
	096.1-096.6		2	7	1	9	..	
	096.8, 096.9		..	..	..	..	..
	122		..	..	..	..	..
	136-138							
		<i>Carried forward</i> ..	857	8,901	562	9,758	890	

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	857	8,901	562	9,758	890	
		II.—Neoplasms						
A 44	140-148	Malignant neoplasm of buccal cavity and pharynx ..	1	116	16	117	4	
A 45	150	Malignant neoplasm of oesophagus ..	2	72	25	74	5	
A 46	151	Malignant neoplasm of stomach ..	6	160	56	166	4	
A 47		Malignant neoplasm of intestine except rectum:—						
	152	Malignant neoplasm of small intestine, including duodenum ..	..	1	..	1	..	
	153	Malignant neoplasm of large intestine, except rectum ..	..	33	6	33	3	
A 48	154	Malignant neoplasm of rectum ..	4	44	5	48	3	
A 49	161	Malignant neoplasm of larynx ..	..	24	4	24	1	
A 50	162-163	Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary ..	8	133	42	141	11	
A 51	170	Malignant neoplasm of breast ..	3	49	3	52	4	
A 52	171	Malignant neoplasm of cervix uteri ..	8	203	9	211	4	
A 53	172-174	Malignant neoplasm of other and unspecified parts of uterus ..	..	35	2	35	..	
A 54	177	Malignant neoplasm of prostate ..	..	6	..	6	..	
A 55	190-191	Malignant neoplasm of skin ..	..	20	4	20	..	
A 56	196-197	Malignant neoplasm of bone and connective tissue ..	..	19	5	19	..	
		<i>Carried forward</i> ..	889	9,816	739	10,705	929	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	889	9,816	739	10,705	929	
		II.— <i>Neoplasms—contd.</i>						
A 57		Malignant neoplasm of all other and un- specified sites:—						
	155–156	Malignant neoplasm of liver	2	90	31	92	2	
(a)	157	Malignant neoplasm of pancreas	..	7	3	7	..	
(b)	158	Malignant neoplasm of peritoneum	..	3	..	3	..	
(c)	159	Malignant neoplasm of unspecified di- gestive organs	..	4	..	4	..	
(d)		Malignant neoplasm of other and un- specified female genital organs	..	25	1	25	2	
(e)	175–176	Malignant neoplasm of other and un- specified male genital organs	..	12	2	13	1	
(f)	178–179	Malignant neoplasm of kidney, bladder and other urinary organs	..	38	6	38	..	
(g)	180–181	Malignant neoplasm of all other and unspecified sites	8	76	20	84	6	
(h)	160 164–165 192–195 198–199 204	Leukaemia and Aleukaemia Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system:—	3	45	18	48	4	
A 58		Lymphosarcoma and reticulosacoma	..	13	5	13	..	
A 59	200 201	Hodgkin's disease	..	9	2	9	..	
		<i>Carried forward</i> ..	903	10,138	827	11,041	944	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	903	10,138	827	11,041	944	
		II.— <i>Neoplasms—contd.</i>						
A 59	(c) 202-203 } 205 }	Other neoplasm of lymphatic and hae- matopoietic system ..	..	9	5	9	..	
A 60	(a) 210-211	Benign neoplasms and neoplasms of un- specified nature:— Benign neoplasm of buccal cavity, pha- rynix and digestive system ..	..	17	1	17	..	
	(b) 213-217	Benign neoplasm of female genital organs ..	..	311	2	311	5	
	(c) 218	Benign neoplasm of male genital organs ..	..	7	..	7	..	
	(d) 212, 219-229 230 }	Benign neoplasm of other and un- specified organs and tissue ..	2	127	1	129	13	
	(e)	Neoplasm of unspecified nature of di- gestive organs ..	..	6	..	6	2	
	(f) 233-235	Neoplasm of unspecified nature of other female genital organs ..	..	10	..	10	..	
	(g) 231-232 } 236-239 }	Neoplasm of unspecified nature of other unspecified organs ..	..	46	7	46	4	
		<i>Carried forward</i> ..	905	10,671	843	11,576	968	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	905	10,671	843	11,576	968	
		III.— <i>Allergic, Endocrine System, Metabolic and Nutritional Diseases</i>						
		IV.— <i>Diseases of the Blood and Blood-Forming Organs</i>						
A 61	250-251	Nontoxic goitre ..	3	47	..	50	..	
A 62	252	Thyrototoxicosis with or without goitre ..	5	128	2	133	6	
A 63	260	Diabetes mellitus ..	6	246	17	252	7	
A 64		Avitaminosis and other deficiency states:—						
(a)	280	Beri Beri ..	..	56	7	56	1	
(b)	281	Pellagra ..	2	..	..	2	..	
(c)	282	Scurvy ..	..	7	..	7	..	
(d)	283-284	Rickets ..	1	11	..	12	..	
(e)	285	Osteomalacia ..	..	1	..	1	..	
(f)	286.0	Steatorrhoea and Sprue ..	..	1	..	1	1	
(g)	286.5	Malnutrition-unqualified ..	3	71	10	74	2	
(h)	286.1-286.4	Other avitaminoses and nutritional deficiency states ..	2	10	..	12	..	
	286.6							
		<i>Carried forward</i> ..	927	11,249	879	12,176	985	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	927	11,249	879	12,176	985	
		IV.— <i>Diseases of the Blood and Blood- Forming Organs—contd.</i>						
A 65		Anaemias:—						
	(a)	Pernicious and other hyperchromic anaemias ..	2	11	2	13	1	
	(b)	Iron deficiency anaemias (hypochromic) ..	..	112	..	112	..	
A 66	(c)	Other specified and unspecified anaemias ..	12	113	11	125	15	
		Allergic disorders; all other endocrine metabolic and blood diseases:—						
	(a)	Asthma ..	11	331	4	342	10	
	(b)	Angioneurotic oedema, urticaria and other allergic disorders ..	..	112	2	112	1	
	(c)	Myxoedema and cretinism ..	..	8	1	8	..	
	(d)	Other diseases of thyroid gland ..	..	7	1	7	..	
	(e)	Disorders of pancreatic internal secretion other than diabetes mellitus ..	..	7	..	7	..	
	(f)	Diseases of parathyroid gland ..	..	..	..	..	..
	(g)	Diseases of pituitary gland ..	..	8	1	8	..	
	(h)	Diseases of thymus gland ..	..	1	..	1	..	
	(i)	Diseases of adrenal gland ..	..	..	..	..	..
	(j)	Other diseases of endocrine glands ..	..	2	..	2	1	
	(k)	Gout ..	1	2	..	3	..	
	(l)	Other metabolic diseases ..	..	12	..	12	..	
(m)		Polycythemia ..	..	1	..	1	..	
		<i>Carried forward</i> ..	953	11,976	901	12,929	1,013	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	953	11,976	901	12,929	1,013	
		IV.— <i>Diseases of the Blood and Blood- Forming Organs—contd.</i>						
A 66	(n)	Haemophilia ..	1	7	..	8	1	
	(o)	Purpura and other haemorrhagic con- ditions ..	4	47	2	51	2	
	(p)	Agranulocytosis ..	..	..	..	..	..
	(q)	Diseases of spleen ..	..	10	..	10	5	
	(r)	Other diseases of blood and blood- forming organs ..	..	11	6	11	..	
		V.— <i>Mental, Psychoneurotic and Personality Disorders</i>						
A 67		Psychoses:—						
	(a)	Schizophrenic disorders (dementia præcox) ..	557	321	13	878	621	
	(b)	Maniac-depressive reaction ..	562	565	11	1,127	624	
	(c)	Involuntary melancholia ..	5	27	1	32	20	
	(d)	Paranoia and paranoid states ..	1	30	..	31	19	
	(e)	Senile psychoses ..	20	40	20	60	41	
	(f)	Other and unspecified psychoses ..	772	332	46	1,104	624	
		<i>Carried forward</i> ..	2,875	13,366	1,000	16,241	2,970	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
A 68		<i>Brought forward</i> ..	2,875	13,366	1,000	16,241	2,970	
		V.— <i>Mental, Psychoneurotic and Personality Disorders—contd.</i>						
		Psychoneuroses and disorders of per- sonality:—						
	(a)	Hysterical reaction ..	..	91	..	91	1	
	(b)	Neurotic-depressive reaction ..	..	34	..	34	..	
	(c)	Alcoholism ..	..	55	..	55	2	
A 69	(d)	Other drug addiction ..	6	1,128	..	1,134	53	
	(e)	Other psychoneuroses and disorders of personality ..	..	146	..	146	3	
		Mental deficiency ..	1	54	..	55	2	
		VI.— <i>Diseases of the Nervous System and Sense Organs</i>						
		Vascular lesions affecting central nervous system:—						
A 70		Cerebral hæmorrhage ..	3	149	100	152	3	
	(a)	Cerebral embolism and thrombosis ..	5	130	18	135	2	
	(b)	Other vascular lesions affecting central nervous system ..	..	24	6	24	..	
	(c)							
		<i>Carried forward</i> ..	2,890	15,177	1,124	18,067	3,036	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	2,890	15,177	1,124	18,067	3,036	
		VI.— <i>Diseases of the Nervous System and Sense Organs—contd.</i>						
A 71	340	Non-meningococcal meningitis ..	5	117	45	122	11	
A 72	345	Multiple sclerosis ..	..	..	..	..	..
A 73	353	Epilepsy ..	2	128	..	130	2	
A 74	370 371-379	Inflammatory diseases of eye:— Conjunctivitis and ophthalmia ..	1	65	..	66	2	
		Other inflammatory diseases of eye ..	27	394	1	421	16	
A 75	385	Cataract ..	21	445	..	466	18	
A 76	387	Glaucoma ..	10	84	..	94	11	
A 77	390 391-393 394	Otitis media and mastoiditis:— Otitis externa ..	1	30	1	31	..	
		Otitis media and mastoiditis ..	1	102	8	103	2	
		Other inflammatory diseases of ear ..	..	3	..	3	..	
A 78		All other diseases of the nervous system and sense organs:—						
	380-384 386, 388 389	} All other diseases and conditions of eye	20	303	..	323	31	
		<i>Carried forward</i> ..	2,978	16,848	1,179	19,826	3,129	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	2,978	16,848	1,179	19,826	3,129	
		<i>VI. Diseases of the Nervous System and Sense Organs—contd.</i>						
A 78	(b)	Intracranial and intraspinal abscess ..	..	12	5	12	1	
	(c)	Encephalitis, myelitis and encephalo- myelitis ..	4	132	39	136	3	
	(d)	Paralysis agitans ..	1	13	..	14	2	
	(e)	Other cerebral paralysis ..	30	35	5	65	31	
	(f)	Motor neuron disease and muscular atrophy ..	1	6	..	7	..	
	(g)	Other diseases of spinal cord ..	5	15	..	20	2	
	(h)	Other and unspecified forms of neural- gia and neuritis ..	1	53	..	54	2	
	(i)	Other diseases of cranial nerves ..	..	9	..	9	..	
	(j)	Diseases of peripheral autonomic ner- vous system ..	..	5	..	5	1	
	(k)	341,341 351,354 355 360-365 368 395-398						
		All other diseases of the nervous system and sense organs ..	5	66	3	71	..	
		<i>Carried forward</i> ..	3,025	17,194	1,231	20,219	3,171	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward ..</i>	3,025	17,194	1,231	20,219	3,171	
		VII.—Diseases of the Circulatory System						
		Rheumatic fever:—						
A 79	(a) 400	Rheumatic fever without mention of heart involvement ..	3	89	5	92	5	
	(b) 401	Rheumatic fever with heart involvement ..	..	105	11	105	..	
	(c) 402	Chorea ..	..	9	1	9	1	
		Chronic rheumatic heart disease:—						
A 80	(a) 410–413	Diseases of valves specified as rheumatic ..	2	184	17	186	3	
	(b) 414	Other endocarditis specified as rheumatic ..	..	18	2	18	2	
	(c) 415	Other myocarditis specified as rheumatic ..	..	9	..	9	1	
	(d) 416	Other heart disease specified as rheumatic ..	1	1	2	2	..	
		Arteriosclerotic and degenerative heart disease:—						
A 81	(a) 420	Arteriosclerotic heart disease, including coronary disease ..	8	169	48	177	16	
	(b) 421	Chronic endocarditis not specified as rheumatic ..	15	57	12	72	10	
		<i>Carried forward ..</i>	3,054	17,835	1,329	20,889	3,209	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,054	17,835	1,329	20,889	3,209	
		VII.— <i>Diseases of the Circulatory System</i> — <i>contd.</i>						
A 81	(c) 422	Other myocardial degeneration ..	..	24	7	24	..	
A 82	(a) 430 (b) 431	Other diseases of heart:— Acute and subacute endocarditis .. Acute myocarditis not specified as rheu- matic .. ..	.. .. 1	20 11	8 7	20 12	.. ..
	(c) 432	Pericarditis not specified as rheumatic ..	..	8	3	8	1	
	(d) 433	Functional disease of heart ..	..	26	..	26	1	
	(e) 434	Other and unspecified diseases of heart ..	4	91	21	95	7	
A 83	440-443	Hypertension with heart disease ..	7	282	57	289	9	
A 84	444-447	Hypertension without mention of heart	13	240	37	253	9	
A 85		Diseases of arteries:—						
	(a) 450	General arteriosclerosis ..	2	22	6	24	..	
	(b) 451	Aortic aneurysm specified as non-syphi- litic and dissecting aneurysm ..	..	9	2	9	..	
	(c) 452	Other aneurysm, except of heart and aorta .. ..	..	9	2	9	1	
	(d) 453	Peripheral vascular disease ..	2	29	1	31	3	
	(e) 454	Arterial embolism and thrombosis ..	..	14	5	14	..	
	(f) 455	Gangrene of unspecified cause ..	2	12	..	14	3	
		<i>Carried forward</i> ..	3,085	18,632	1,485	21,717	3,243	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,085	18,632	1,485	21,717	3,243	
		VII.— <i>Diseases of the Circulatory System</i> —contd.						
A 85	456	Other diseases of arteries	..	9	2	9	2	
A 86	460,462	Other diseases of circulatory system:—						
	461	Varicose veins	3	40	..	43	..	
	463-464	Hæmorrhoids	5	476	..	481	6	
	465	Phlebitis and thrombophlebitis	..	28	..	28	1	
	466	Pulmonary embolism and infarction	..	8	3	8	1	
		Other venous embolism and throm- bosis	..	6	1	6	1	
	467	Other diseases of circulatory system	..	11	1	11	..	
	468	Adenitis, Lymphadenitis, and other diseases of lymph nodes and lymph channels	3	38	..	41	1	
		VIII.— <i>Diseases of the Respiratory System</i>						
A 87	470	Acute upper respiratory infections:— Acute nasopharyngitis (common cold)	2	188	3	190	1	
		<i>Carried forward</i> ..	3,098	19,436	1,495	22,534	3,256	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,098	19,436	1,495	22,534	3,256	
		VIII.— <i>Diseases of the Respiratory System</i> — <i>contd.</i>						
A 87	(b) (c) (d) (e) (f)	Acute sinusitis .. Acute pharyngitis .. Acute tonsillitis .. Acute laryngitis and tracheitis .. Acute upper respiratory infection of multiple or unspecified sites .. Influenza .. Lobar Pneumonia .. Broncho-pneumonia .. Primary atypical, other and unspecified pneumonia .. Acute bronchitis ..	1 6 4 4 5 5 4	40 545 371 37 4 97 323 792 79 393	.. 4 3 2 .. 53 200 9 5	41 551 375 37 4 97 327 797 84 397	1 6 10 1 7 8 3 4	
A 88		Bronchitis, chronic and unqualified:—						
A 89	(a)	Bronchitis unqualified ..	7	87	2	94	..	
A 90	(b)	Chronic bronchitis ..	1	84	10	85	4	
A 91		Hypertrophy of tonsils and adenoids ..	7	552	..	559	..	
A 92		Empyema and Abscess of lung:—						
A 93	(a)	Empyema ..	6	57	11	63	5	
A 94	(b)	Abscess of lung ..	8	54	6	62	7	
A 95		Pleurisy ..	18	107	2	125	19	
A 96		<i>Carried forward</i> ..	3,175	23,058	1,802	26,232	3,331	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
A 97	(a) (b) (c) (d) (e) (f) (g)	Brought forward ..	3,175	23,058	1,802	26,232	3,331	
		VIII.—Diseases of the Respiratory System —contd.						
		All other respiratory diseases:—						
		Other diseases of upper respiratory tract ..	6	57	5	63	3	
		Spontaneous pneumothorax ..	..	17	1	17	..	
		Pulmonary congestion and hypostasis ..	..	5	1	5	..	
		Other chronic interstitial pneumonia ..	..	5	..	5	..	
		Pneumoconiosis ..	..	..	..	..	..
		Bronchiectasis ..	5	164	10	169	7	
		All other respiratory diseases ..	12	447	7	459	3	
A 98	(a) (b) (c)	IX.—Diseases of the Digestive System						
		Diseases of teeth and supporting structures:—						
		Dental caries ..	..	5	..	5	..	
		Gingivitis ..	1	5	..	6	..	
		Pyorrhœa ..	..	4	..	4	..	
		Carried forward ..	3,198	23,767	1,826	26,965	3,344	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

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Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		† Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,198	23,767	1,826	26,965	3,344	
		IX.— <i>Diseases of the Digestive System</i> —contd.						
A 98	(d) 531,533-535	Other diseases of teeth and supporting structures ..	1	26	..	27	2	
A 99	540	Ulcer of stomach ..	21	397	17	418	14	
A 100	541	Ulcer of duodenum ..	6	289	17	295	3	
A 101	543	Gastritis and duodenitis ..	4	147	..	151	2	
A 102	550-553	Appendicitis ..	28	1,179	17	1,207	25	
A 103		Intestinal obstruction and hernia:—						
(a)	560	Hernia of abdominal cavity without mention of obstruction ..	6	568	3	574	1	
(b)	561	Hernia of abdominal cavity with obstruction ..	1	142	7	143	6	
(c)	570.0	Intussusception ..	..	32	3	32	2	
(d)	570.3	Volvulus ..	..	9	2	9	2	
(e)	570.1,570.2 570.4,570.5	} Other intestinal obstruction ..	3	50	15	53	2	
A 104		Gastro-enteritis and colitis, except diarrhoea of the new born:—						
(a)	571.0	Gastro-enteritis and colitis, ages between four weeks and two years..	18	883	203	901	8	
		<i>Carried forward</i> ..	3,286	27,489	2,110	30,775	3,411	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		† Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward ..</i>	3,286	27,489	2,110	30,775	3,411	
		IX.—Diseases of the Digestive System <i>—contd.</i>						
A 104	(b) 571.1	Gastro-enteritis and colitis, ages two years and over ..	1	305	14	306	3	
	(c) 572	Chronic enteritis and ulcerative colitis	..	28	7	28	..	
A 105	(a) 581.0	Cirrhosis of liver:—						
	(b) 581.1	Cirrhosis of liver without mention of alcoholism ..	8	127	25	135	10	
		Cirrhosis of liver with alcoholism ..	..	31	6	31	..	
A 106	(a) 584	Cholelithiasis and Cholecystitis:—	1	67	4	68	..	
	(b) 585	Cholelithiasis ..	8	177	6	185	..	9
A 107	(a) 536	Cholecystitis without mention of calculi						
	(b) 537, 538	Other diseases of Digestive System:—						
		Stomatitis ..	..	37	1	37	..	
		Other diseases of buccal cavity ..	..	26	..	26	..	
	(c) 539.0	Functional disorders of oesophagus ..	..	2	..	2	1	
	(d) 539.1	Stricture or obstruction of oesophagus	2	14	2	16	4	
	(e) 544	Disorders of function of stomach ..	..	24	..	24	..	
	(f) 542-545	Other diseases of stomach and duodenum ..	5	33	2	38	7	
		<i>Carried forward ..</i>	3,311	28,360	2,177	31,671	3,445	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		† Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,311	28,360	2,177	31,671	3,445	
		IX.— <i>Diseases of the Digestive System</i> — <i>contd.</i>						
A 107	(g)	Constipation ..	..	35	..	35	..	
	(h)	Other functional disorders of intestines	..	16	..	16	..	
	(i)	Anal fissure and fistula ..	4	114	..	118	2	
	(j)	Abscess of anal and rectal regions ..	5	110	..	115	3	
	(k)	Peritonitis ..	1	47	14	48	3	
	(l)	Other diseases of intestines and peri- toneum ..	1	59	1	60	3	
	(m)	Acute yellow atrophy of liver ..	1	10	3	11	1	
	(n)	Other diseases of liver ..	2	77	12	79	4	
	(o)	Other diseases of gall-bladder and biliary ducts ..	..	29	5	29	1	
	(p)	Diseases of pancreas ..	..	30	6	30	..	
		X.— <i>Diseases of the Genito-Urinary System</i>						
A 108		Acute nephritis ..	6	259	8	265	11	
A 109		Chronic, other and unspecified nephri- tis:—						
	(a)	Nephritis with oedema, including nep- hrosis ..	7	132	11	139	14	
		<i>Carried forward</i> ..	3,338	29,278	2,237	32,616	3,487	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,338	29,278	2,237	32,616	3,487	
		<i>X.—Diseases of the Genito-Urinary System</i> <i>—contd.</i>						
A 109	592	Chronic nephritis ..	8	79	34	87	7	
(b)	593	Nephritis not specified as acute or chronic ..	3	32	3	35	2	
(c)	594	Other renal sclerosis ..	..	3	..	3	..	
(d)	600	Infections of kidney ..	3	102	5	105	2	
A 110								
A 111	602	Calculi of urinary system:—	1	151	3	152	1	
(a)	604	Calculi of kidney and ureter ..	..	40	..	40	..	
(b)	610	Calculi of other parts of urinary system ..	..	66	1	66	3	
A 112	620, 621	Hyperplasia of prostate ..	1	64	..	65	..	
A 113		Diseases of breast ..						
A 114	603	Other diseases of genito-urinary system:—						
(a)	605	Other diseases of kidney and ureter ..	..	99	..	99	1	
(b)	606	Cystitis ..	1	58	1	59	3	
(c)	608	Other diseases of bladder ..	..	29	..	29	1	
(d)	609	Stricture of urethra ..	1	29	..	30	1	
(e)	612	Other diseases of urethra ..	2	17	..	19	2	
(f)	613	Other diseases of prostate ..	2	8	..	10	..	
(g)	614	Hydrocele ..	2	140	..	142	2	
(h)	611	Orchitis and epididymitis ..	..	42	..	42	1	
(i)	615–617	Other diseases of male genital organs ..	..	165	1	165	3	
(j)	622–624	Acute salpingitis and oophoritis ..	3	82	..	85	..	
		<i>Carried forward</i> ..	3,365	30,484	2,285	33,849	3,516	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡ Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,365	30,484	2,285	33,849	3,516	
		X.—Diseases of the Genito-Urinary System —contd.						
		Other diseases of ovary and Fallopian tube ..	2	70	2	72	1	
A 114 (k)	625	Diseases of parametrium and pelviperitoneum (female) ..	..	44	..	44	..	
(l)	626	Infective disease of uterus, vagina and vulva ..	..	47	2	47	..	
(m)	630	Other diseases of uterus ..	3	292	1	295	6	
(n)	631-633	Disorders of menstruation ..	2	150	..	152	..	
(o)	634	Other diseases of female genital organs	3	99	1	102	1	
(p)	635-637	All other diseases of the genito-urinary system ..	..	47	..	47	..	
(q)	601, 607							
		XI.—Deliveries and Complications of Pregnancy, Childbirth and the Puerperium						
		Sepsis of pregnancy, childbirth and the puerperium:—						
		Pyelitis and pyelonephritis of pregnancy	..	48	2	48	..	
A 115 (a)	640	Other infections of genito-urinary tract during pregnancy ..	..	3	..	3	..	
(b)	641	Sepsis of childbirth and the puerperium	..	235	1	235	5	
(c)	681							
		<i>Carried forward</i> ..	3,375	31,519	2,294	34,894	3,529	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		† Total cases treated	‡ Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,375	31,519	2,294	34,894	3,529	
		XI.— <i>Deliveries and Complications of Preg- nancy, Childbirth and the Puerperium</i> —contd.						
A 115	(d) (e)	Puerperal phlebitis and thrombosis .. Puerperal pulmonary embolism ..	.. ..	3 1	.. ..	3 1	.. ..
A 116		Toxaemias of pregnancy and the puer- perium:—						
	642.2	Pre-eclampsia of pregnancy ..	32	1,276	8	1,308	16	
(a)	642.3	Eclampsia of pregnancy ..	2	52	3	54	1	
(b)	642.4	Hyperemesis gravidarum ..	..	89	..	89	1	
(c)	642.5	Acute yellow atrophy of liver of pre- gnancy ..	..	..	..	..	..
(d)		Other toxaemias of pregnancy ..	..	..	..	..	..
(e)	642.5	Abortion with toxæmia, without men- tion of sepsis ..	..	..	..	..	..
(f)	652	Puerperal eclampsia ..	..	22	2	22	..	
(g)	685	Other forms of puerperal toxæmia ..	..	..	..	..	..
(h)	686	Haemorrhage of pregnancy and child- birth:—						
A 117		Placenta prævia ..	..	14	..	14	..	
(a)	643	Other hæmorrhage of pregnancy ..	..	108	..	108	4	
(b)	644							
		<i>Carried forward</i> ..	3,409	33,084	2,307	36,493	3,551	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward ..</i>	3,409	33,084	2,307	36,493	3,551	
		XI.— <i>Deliveries and Complications of Preg- nancy, Childbirth and the Puerperium</i> —contd.						
A 117	(c)	Delivery complicated by placenta præ- via or antepartum hæmorrhage ..	4	420	6	424	4	
	(d)	Delivery complicated by retained pla- centa ..	4	383	2	387	5	
	(e)	Delivery complicated by other post- partum hæmorrhage ..	7	1,254	2	1,261	4	
A 118		Abortion without mention of sepsis or toxæmia ..	12	1,742	2	1,754	..	
A 119		Abortion with sepsis ..	1	71	..	72	..	
A 120		Other complications of pregnancy, child- birth and the puerperium:—						
	(a)	Ectopic pregnancy ..	3	146	1	149	1	
	(b)	Anæmia of pregnancy ..	..	210	1	210	8	
	(c)	Pyrexia of unknown origin during the puerperium ..	..	13	1	13	..	
	(d)	Puerperal psychoses ..	..	3	..	3	..	
	(e)	Mastitis and other disorders of lacta- tion ..	..	35	..	35	..	
		<i>Carried forward ..</i>	3,440	37,361	2,322	40,801	3,573	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
A 120 (f)	647-649 673-680 687 688.0 688.2-688.3	Brought forward ..	3,440	37,361	2,322	40,801	3,573	
		XI.—Deliveries and Complications of Preg- nancy, Childbirth and the Puerperium —contd.						
		Other complications of pregnancy, childbirth and the puerperium ..	70	8,790	32	8,860	58	
		Delivery without complications ..	153	13,256	..	13,409	141	
A 121	(a) (b) (c)	XII.—Diseases of the Skin and Cellular Tissue						
		XIII.—Diseases of the Bones and Organs of Movement						
		Infections of skin and subcutaneous tissue:—						
		Boil and carbuncle ..	2	42	..	44	..	
		Cellulitis and abscess ..	19	531	5	550	14	
		Other infections of skin and subcuta- neous tissue ..	10	411	1	421	9	
		Carried forward ..	3,694	60,391	2,360	64,085	3,795	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,694	60,391	2,360	64,085	3,795	
		XIII.— <i>Diseases of the Bones and Organs of Movement—contd.</i>						
		Arthritis and spondylitis:—						
		Acute arthritis due to pyogenic or- ganisms .. ..	..	34	..	34	1	
A 122	(a)	Acute nonpyogenic arthritis ..	..	24	..	24	..	
	(b)	Rheumatoid arthritis and allied con- ditions	9	56	..	65	8	
	(c)	Arthritis specified and unspecified ..	5	86	1	91	7	
A 123	(d)	Muscular rheumatism and rheumatism, unspecified:—						
		Muscular rheumatism	2	32	..	34	..	
		Rheumatism unspecified .. ..	..	3	..	3	..	
A 124	(a)	Osteomyelitis and periostitis ..	5	94	1	99	4	
A 125	(b)	Ankylosis and acquired musculoskeletal deformities:—						
		Ankylosis of joint .. ..	..	14	..	14	1	
		Other acquired musculoskeletal defor- mities .. ..	..	22	..	22	..	
		All other diseases of skin and musculo- skeletal system:—						
A 126	(a)	Chronic ulcer of skin (including tropical ulcer)	3	46	1	49	3	
		<i>Carried forward</i> ..	3,718	60,812	2,363	64,520	3,819	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,718	60,812	2,363	64,520	3,819	
		XIII.— <i>Diseases of the Bones and Organs of Movement—contd.</i>						
A 126	(b)	} All other diseases of skin and subcu- taneous tissue ..	16	171	2	187	7	
	(c)	} All other diseases of musculoskeletal system ..	3	142	2	145	2	
		XIV.— <i>Congenital Malformations</i>						
A 127		Spina bifida and meningocele ..	..	11	3	11	..	
A 128		Congenital malformation of circulatory system ..	7	161	38	168	4	
A 129	(a)	All other congenital malformations:—						
	(b)	Monstrosity ..	..	2	..	2	..	
	(c)	Congenital hydrocephalus ..	..	4	..	4	..	
	(d)	Other congenital malformations of nervous system and sense organs ..	..	11	2	11	..	
		Cleft palate and harelip ..	7	79	1	86	2	
		<i>Carried forward</i> ..	3,751	61,393	2,411	65,134	3,834	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,751	61,393	2,411	65,134	3,834	
		XIV.— <i>Congenital Malformations—contd.</i>						
A 129	(e)	756.0 Congenital hypertrophic pyloric stenosis	..	7	3	7	..	
	(f)	756.1 Imperforate anus	..	21	5	21	..	
	(g)	756.2 Other congenital malformations of digestive system	1	20	7	21	..	
	(h)	757 Congenital malformations of genitourinary system	1	54	..	55	3	
	(i)	758 Congenital malformations of bone and joint	1	20	..	21	1	
	(j)	759 Other and unspecified congenital malformations, not elsewhere classified	..	37	3	37	1	
		XV.— <i>Certain Diseases of Early Infancy</i>						
A 130	(a)	Birth injuries:— Intracranial and spinal injury at birth..	..	2	..	2	..	
	(b)	Other birth injury ..	..	6	1	6	..	
		<i>Carried forward</i> ..	3,754	61,560	2,430	65,304	3,839	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,754	61,560	2,430	65,304	3,839	
		XV.—Certain Diseases of Early Infancy —contd.						
A 131	762	Post-natal asphyxia and atelectasis ..	..	19	8	19	..	
A 132	763	Infections of the newborn:—	..	9	9	9	..	
(a)	764	Pneumonia of newborn ..	..	129	27	129	3	
(b)	765	Diarrhoea of newborn ..	..	5	..	5	..	
(c)	766	Ophthalmia neonatorum ..	..	9	..	9	..	
(d)	767	Pemphigus neonatorum ..	..	21	..	21	..	
(e)	768	Umbilical sepsis ..	..	7	3	7	..	
(f)	770	Other sepsis of newborn ..	..	42	27	42	..	
A 133	769	Haemolytic disease of newborn ..	..	40	10	40	1	
A 134	771,772	All other defined diseases of early in- fancy ..	..				
A 135	773	Ill-defined diseases peculiar to early in- fancy, and immaturity unqualified:—	..	11	..	11	1	
(a)	774-776	Ill-defined diseases peculiar to early in- fancy ..	..	17	7	17	2	
(b)		Immaturity and immaturity unqualified						
		<i>Carried forward</i> ..	3,754	61,869	2,521	65,613	3,846	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,754	61,869	2,521	65,613	3,846	
A 136	794	XVI.—Symptoms, Senility and Ill-Defined Conditions	3	15	..	18	4	
A 137		Senility without mention of psychoses						
		Ill-defined and unknown causes of morbi- dity and mortality:—						
(a)	780-789 except 788.8	Symptoms referable to systems or or- gans.. ..	36	574	6	610	21	
(b)	788.8	Pyrexia of unknown origin	13	394	4	407	6	
(c)	793	Observation, without need for further medical care ..	13	291	..	304	6	
(d)	795.1	Malingering .. ..	..	33	..	33	..	
(e)	795.2	Sudden death (cause unknown)	..	..	..	..	..
(f)	795.3	Found dead (cause unknown)	..	..	..	..	..
(g)	790-792 795.0 795.4 795.5	Other ill-defined and unknown causes of morbidity and mortality ..	16	63	2	79	..	
		<i>Carried forward</i> ..	3,835	63,229	2,533	67,064	3,883	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,835	63,229	2,533	67,064	3,883	
AE 138	E810-E835	XVII.—Accidents, Poisonings and Violence	17	929	76	946	21	
AE 139		'E' Code: Alternative Classification of Accidents, Poisonings and Violence (External Causes)						
		Motor vehicle accidents ..						
(a)	E800-E802	Other Transport Accidents:—		1	1	1	..	
(b)	E850-E858	Railway accidents ..	..	4	..	4	..	
(c)	E860-E866	Water transport accidents ..	..	3	..	3	..	
(d)	E840-E845	Aircraft accidents ..	..	43	4	47	..	
AE 140		Other road vehicle accidents ..	4					
(a)	E870	Accidental poisoning:—						
(b)	E874	Accidental poisoning by morphia and other opium derivatives ..	..	10	2	10	..	
(c)	E878	Accidental poisoning by other analgesic and soporific drugs ..	..	16	..	16	..	
(d)	E883	Accidental poisoning by other and unspecified drugs ..	2	40	..	42	1	
		Accidental poisoning by corrosive aromatics, acids and caustic alkalies	..	101	10	101	..	
		<i>Carried forward</i> ..	3,858	64,376	2,626	68,234	3,905	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward ..</i>	3,858	64,376	2,626	68,234	3,905	
		XVII.—Accidents, Poisonings and Violence —contd.						
		‘E’ Code: <i>Alternative Classification of Accidents, Poisonings and Violence (External Causes)</i> —contd.						
AE 140	(e)	Accidental poisoning by mercury and its compounds	..	3	1	3	..	
	(f)	Accidental poisoning by lead and its compounds	..	7	..	7	..	
	(g)	Accidental poisoning by arsenic and antimony and their compounds	..	..	..	..	..
	(h)	Accidental poisoning by other and un- specified solid or liquid substances	..	56	1	56	..	
	(i)	Accidental poisoning by gases and vapours	..	2	..	2	..	
	(j)	Other accidental poisoning	..	7	..	7	..	
AE 141		Accidental falls	33	925	40	958	48	
AE 142		Accident caused by machinery	1	56	..	57	1	
AE 143		Accident caused by fire and explosion of combustible material	7	131	12	138	7	
AE 144		Accident caused by hot substance, cor- rosive liquid, steam and radiation	4	369	15	373	10	
		<i>Carried forward ..</i>	3,903	65,932	2,695	69,835	3,971	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,903	65,932	2,695	69,835	3,971	
		XVII.—Accidents, Poisonings and Violence —contd.						
		‘E’ Code: <i>Alternative Classification of Accidents, Poisonings and Violence (External Causes)</i> —contd.						
AE 145	E919	Accident caused by firearms	..	8	..	8	..	
AE 146	E929	Accidental drowning and submersion	..	21	1	21	..	
AE 147		All other accidental causes:—						
(a)	E920	Foreign body entering eye and adnexa	..	9	..	9	1	
(b)	E923	Foreign body entering other orifice	..	35	1	35	1	
(c)	E927	Accidents caused by bites and stings of venomous animals and insects	..	52	..	52	..	
(d)	E928	Other accidents caused by animals	..	15	..	15	..	
(e)	E913	Accidents caused by cutting or piercing instruments	..	139	..	139	4	
(f)	E914	Accidents caused by electric current	..	15	..	15	..	
(g)	E924, E925	Accidental mechanical suffocation	..	2	..	2	..	
(h)	E926	Lack of care of infants under one year of age	..	1	..	1	..	
(i)	E931	Excessive heat	..	3	..	3	..	
(j)	E932	Excessive cold	..	..	..	..	..
		<i>Carried forward</i> ..	3,903	66,232	2,697	70,135	3,977	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,903	66,232	2,697	70,135	3,977	
		XVII.—Accidents, Poisonings and Violence —contd.						
		‘E’ Code: Alternative Classification of Accidents, Poisonings and Violence (External Causes)—contd.						
AE 147	(k)	Hunger, thirst and exposure	..	1	..	1	..	
	(l)	Cataclysm ..	..	..	..	..	..
	(m)	Lightning ..	..	2	..	2	..	
	(n)	Other and unspecified accidents	..	46	1	46	..	
	(o)	Vaccinia including post-vaccinal encephalitis ..	..	..	..	..	..
	(p)	Other complications of small-pox vacci- nation ..	..	2	..	2	..	
	(q)	Anæsthetic accidents ..	..	..	..	..	..
	(r)	Accidents due to medical or surgical intervention ..	..	4	..	4	..	
	(s)	All other accidental causes	22	391	28	413	12	
		<i>Carried forward</i> ..	3,925	66,678	2,726	70,603	3,989	

APPENDIX IV—continued
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,925	66,678	2,726	70,603	3,989	
		XVII.— <i>Accidents, Poisonings and Violence</i> — <i>contd.</i>						
		‘E’ Code: <i>Alternative Classification of</i> <i>Accidents, Poisonings and Violence</i> <i>(External Causes)</i> — <i>contd.</i>						
AE 148		Suicide and self-inflicted injury:—						
(a)	E970	Suicide and self-inflicted injury by analgesic and soporific substances ..	..	14	..	14	..	
(b)	E971	Suicide and self-inflicted injury by other solid and liquid substances ..	1	118	22	119	1	
(c)	E972	Suicide and self-inflicted injury by gases in domestic use ..	..	1	..	1	..	
(d)	E973	Suicide and self-inflicted injury by other gases ..	..	..	..	..	..
(e)	E974	Suicide and self-inflicted injury by hanging or strangulation ..	..	9	2	9	..	
(f)	E975	Suicide and self-inflicted injury by submersion (drowning) ..	..	6	..	6	..	
(g)	E976	Suicide and self-inflicted injury by firearms and explosives ..	..	..	..	..	..
(h)	E977	Suicide and self-inflicted injury by cutting or piercing instruments ..	..	14	2	14	..	
		<i>Carried forward</i> ..	3,926	66,840	2,752	70,766	3,990	

APPENDIX IV—continued

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1955—continued

Intermediate List Number	Detailed List Numbers	Cause Groups (Diseases)	*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	†Remain- ing at end of 1955	Remarks
				Admissions	Deaths			
		<i>Brought forward</i> ..	3,926	66,840	2,752	70,766	3,990	
		XVII.— <i>Accidents, Poisonings and Violence</i> —contd.						
		‘E’ Code: <i>Alternative Classification of Accidents, Poisonings and Violence</i> (<i>External Causes</i>)—contd.						
AE 148	(i) E978	Suicide and self-inflicted injury by jumping from high places ..	..	6	3	6	..	
	(j) E963, E979	Suicide and self-inflicted injury by other and unspecified means ..	..	1	..	1	..	
AE 149		Homicide and injury purposely inflicted by other persons (not in war):—						
	(a) E980	Non-accidental poisoning by another person ..	..	1	..	1	..	
	(b) E981	Assault by firearms and explosives ..	..	6	1	6	..	
	(c) E982	Assault by cutting and piercing instru- ments ..	4	161	4	165	..	
	(d) E964, E983	Assault by other means ..	..	202	6	202	1	
	(e) E984	Injury by intervention of police ..	..	..	..	..	..
	(f) E985	Execution (legal) ..	..	..	..	..	..
AE 150	E990–E999 E965	Injury resulting from operations of war Excluding 208 Transfers and 25 Healthy persons ..	..	..	..	..	..
		Grand Total ..	3,930	67,217	2,766	71,147	3,991	

APPENDIX IV—continued
IN-PATIENTS BY RACIAL GROUPS 1955

Racial Group		*Remain- ing at end of 1954	YEARLY TOTAL		†Total cases treated	‡Remain- ing at end of 1955	Remarks
			Admissions	Deaths			
Europeans ..	..	26	1,125	22	1,151	35	
Eurasians ..	..	54	869	24	923	53	
Chinese ..	..	3,153	51,013	2,267	54,166	3,227	
Indians and Pakistanis ..	..	405	9,792	269	10,197	391	
Malays ..	..	270	3,590	164	3,860	261	
Javanese ..	..	} 22	828	20	850	24	
Others ..	..					
Total ..		3,930	67,217	2,766	71,147	3,991	
Healthy persons admitted to hospital to accompany children or friends		..	25	..	25	..	
Transfers to other Hospitals from General Hospital ..		..	208	..	208	..	

APPENDIX V
SINGAPORE (excluding Christmas and Cocos-Keeling Islands)

DEATHS BY CAUSE, 1950-55

According to the Intermediate List, adapted for use in Singapore, of the Sixth Revision (1948) of the International List of Diseases and causes of Death

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		I.—INFECTIOUS AND PARASITIC DISEASES						
A 1	001-008	Tuberculosis of respiratory system	827	829	811	962	1,052	1,211
A 2	010	Tuberculosis of meninges and central nervous system ..	106	91	129	153	169	177
A 3	011	Tuberculosis of intestines, peritoneum and mesenteric glands ..	9	8	6	4	18	14
A 4	012.0, 013.0 012, 013 except 012.0, 013.0	Tuberculosis of bones and joints:—						
(a)		Tuberculosis of the vertebral column	7	6	6	8	7	11
(b)		Tuberculosis of other bones and joints	1	1	—	2	2	5
A 5	014 015 016 017 018 019	Tuberculosis, all other forms:—						
(a)		Tuberculosis of skin and sub-cutaneous cellular tissue ..	1	—	1	1	2	1
(b)		Tuberculosis of lymphatic system	—	—	1	3	—	5
(c)		Tuberculosis of genito-urinary system	1	1	1	—	—	—
(d)		Tuberculosis of adrenal glands	—	—	—	—	—	—
(e)		Tuberculosis of other organs	1	—	—	20	—	2
(f)		Disseminated tuberculosis	36	28	50	52	49	51
A 6	020	Congenital syphilis	6	15	27	12	15	17
A 7	021.0, 021.1 021.2 021.3 021.4	Early Syphilis:—					24	24
(a)		Primary syphilis	—	—	—	—	—	—
(b)		Secondary syphilis	—	—	—	—	—	—
(c)		Early syphilis, relapse following treatment ..	—	—	—	—	—	—
(d)		Early syphilis (unspecified stage)	—	—	—	—	—	—
		Carried forward ..	995	979	1,033	1,217	1,338	1,518

—means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	995	979	1,033	1,217	1,338	1,518
		I.—INFECTIOUS AND PARASITIC DISEASES—contd.						
A 8	024	Tabes dorsalis	3	4	9	2	5	4
A 9	025	General paralysis of insane	46	45	28	28	10	12
A 10	022	All other syphilis:—	14	27	20	27	18	24
(a)	023	Aneurysm of aorta	16	28	13	—	—	—
(b)	026	Other cardiovascular syphilis	1	4	4	16	—	—
(c)	027	Other syphilis of central nervous system	1	1	1	—	—	—
(d)	028	Other forms of late syphilis	1	—	—	2	—	—
(e)	029	Latent Syphilis	1	—	—	10	—	—
(f)		Syphilis, unqualified	2	1	1	—	—	—
A 11		Gonococcal infections:—						
(a)	030	Acute or unspecified gonorrhoea	—	—	—	—	—	—
(b)	031	Chronic gonococcal infection of genito-urinary system	—	—	—	—	—	—
(c)	032	Gonococcal infection of joint	—	—	—	—	—	—
(d)	033	Gonococcal infection of eye	—	—	—	—	—	—
(e)	034-035	Gonococcal infection of other sites	1	—	—	—	—	—
A 12	040	Typhoid fever	15	15	12	13	19	27
A 13	041	Paratyphoid fever and other Salmonella infections:—						
(a)	042	Paratyphoid fever A, B, or C	—	—	—	—	—	1
(b)		Other Salmonella infections	—	—	—	—	—	—
A 14	043	Cholera	—	—	—	—	—	—
A 15	044	Brucellosis (undulant fever)	—	—	—	—	—	—
A 16	045	Dysentery, all forms:—	3	17	7	5	10	7
(a)	046	Bacillary dysentery	11	15	19	13	15	17
(b)		Amoebiasis	13	15	18	29	17	31
(c)	047-048	Other protozoal and unspecified forms of dysentery						
		<i>Carried forward</i> ..	1,122	1,151	1,165	1,362	1,432	1,641

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward ..</i>	1,122	1,151	1,165	1,362	1,432	1,641
		I.—INFECTIOUS AND PARASITIC DISEASES—contd.						
A 17	050	Scarlet fever	—	—	1	—	—	1
A 18	051	Streptococcal sore throat	—	—	—	—	—	—
A 19	052	Erysipelas	—	—	—	1	—	—
A 20	053	Septicæmia and pyæmia	15	11	32	22	16	27
A 21	055	Diphtheria	49	39	59	86	101	39
A 22	056	Whooping Cough	1	1	2	4	—	4
A 23	057	Meningococcal infections	2	2	1	3	2	3
A 24	058.0 058.1 058.2	Plague:— Bubonic Plague Pneumonic Plague Other Plague	— — —	— — —	— — —	— — —	— — —	— — —
A 25	060	Leprosy	5	6	3	7	2	10
A 26	061	Tetanus:— Tetanus of the new-born Tetanus, other forms	10 20	16 2	17 6	15 20	16 22	27 18
A 27	062	Anthrax	—	—	—	—	—	—
A 28	080	Acute Poliomyelitis	6	4	4	7	9	14
A 29	082	Acute infectious encephalitis	1	15	2	2	—	—
A 30	081, 083	Late effects of acute poliomyelitis and acute infectious encephalitis	1	—	1	3	—	—
A 31	084	Small-pox	—	—	—	—	—	—
		<i>Carried forward ..</i>	1,232	1,247	1,293	1,532	1,600	1,784

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	1,232	1,247	1,293	1,532	1,600	1,784
		<i>I.—INFECTIOUS AND PARASITIC DISEASES—contd.</i>						
A 32	085	Measles	23	17	13	11	26	2
A 33	091	Yellow fever	—	—	—	—	—	—
A 34	092	Infectious hepatitis	12	11	9	7	—	—
A 35	094	Rabies	—	—	—	—	—	—
A 36		Typhus and other rickettsial diseases:—						
	100	Louse-borne epidemic typhus	—	—	—	—	—	—
(a)	101	Flea-borne epidemic typhus (murine)	—	—	—	—	—	—
(b)	104	Tick-borne epidemic typhus	—	—	—	—	—	—
(c)	105	Mite-borne typhus	—	1	—	—	—	—
(d)	102-103	Other and unspecified typhus	—	—	—	—	—	—
(e)	106-108	Malaria:—						
A 37	110	Vivax malaria (benign tertian)	—	1	1	—	—	3
(a)	111	Malariae malaria (quartan)	—	—	—	—	—	—
(b)	112	Falciparum malaria (malignant tertian)	1	5	3	3	8	—
(c)	114	Mixed malarial infections	—	—	—	—	—	—
(d)	115	Blackwater fever	—	—	—	—	—	1
(e)	113	Other and unspecified forms of malaria	21	17	38	43	62	83
(f)	116-117	Schistosomiasis:—						
A 38	123.0	Schistosomiasis vesical (S. hæmatobium)	—	—	—	—	—	—
(a)	123.1	Schistosomiasis intestinal (S. Mansonii)	—	—	—	—	—	—
(b)	123.2	Schistosomiasis Pulmonary (S. japonicum)	—	—	—	—	—	—
(c)	123.3	Other and unspecified Schistosomiasis	—	—	—	—	—	—
(d)		Hydatid disease	—	—	—	—	—	—
A 39	125	Filariasis	—	—	—	—	4	—
A 40	127	Ankylostomiasis	2	1	2	4	3	4
A 41	129							
		<i>Carried forward</i> ..	1,291	1,300	1,359	1,600	1,703	1,885

— means nil.

RETURN OF DEATHS BY CAUSES, 1950-55—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward ..</i>	1,291	1,300	1,359	1,600	1,703	1,885
A 42		<i>I.—INFECTIOUS AND PARASITIC DISEASES—contd.</i>						
(a)	124	Other diseases due to helminths:—						
(b)	126	Other trematode infestation	—	—	—	—	—	—
(c)	128	Tape worm (infestation) and other cestode infestation	—	—	2	—	—	1
(d)	130.0	Trichiniasis	—	—	—	—	22	21
(e)	130.1-130.3	Ascariasis	11	15	30	16	—	—
		Other diseases due to helminths	—	1	3	1	—	—
A 43		All other diseases classified as infective and parasitic:—						
(a)	036	Chancroid	—	—	—	—	—	—
(b)	037	Lymphogranuloma venereum	—	—	—	—	—	—
(c)	038	Granuloma inguinale, venereal	—	—	—	1	1	—
(d)	039	Other and unspecified venereal diseases	—	—	—	—	—	—
(e)	049	Food poisoning (infection and intoxication)	—	—	—	—	—	—
(f)	059	Tularemia	—	—	—	—	—	—
(g)	063	Gas Gangrene	—	—	—	—	—	—
(h)	064.2	Glanders	—	—	—	—	—	—
(i)	064.3	Melioidosis	—	—	—	—	—	—
(j)	064.0, 064.1, 064.4	Other bacterial diseases	—	—	—	—	6	2
(k)	070	Vincent's infection	—	—	—	—	—	—
(l)	071	Relapsing fever	—	—	—	—	—	—
(m)	072	Leptospirosis icterohaemorrhagica (Weil's disease)	—	—	2	4	—	—
(n)	073	Yaws	—	—	—	—	—	—
(o)	086	Rubella (German measles)	—	—	—	—	1	—
(p)	087	Chicken-pox	—	—	—	—	—	—
(q)	088	Herpes Zoster	—	—	—	—	—	—
(r)	089	Mumps	—	—	1	—	—	2
(s)	090	Dengue	—	—	—	—	—	—
(t)	093	Glandular fever	—	—	—	—	—	—
(u)	095	Trachoma	—	—	—	—	—	—
(v)	120	Leishmaniasis	—	—	—	—	—	—
		<i>Carried forward ..</i>	1,302	1,316	1,397	1,622	1,733	1,911

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	1,302	1,316	1,397	1,622	1,733	1,911
A 43		I.—INFECTIOUS AND PARASITIC DISEASES—contd.						
	121	Trypanosomiasis ..	—	—	—	—	—	—
(w)	131	Dermatophytosis ..	—	—	—	—	—	1
(x)	132	Actinomycosis ..	—	—	—	—	—	1
(y)	133,134	Other fungus infections ..	10	3	6	1	—	—
(z)	135	Scabies ..	—	—	—	—	—	—
(A)	054,074	..	—	—	—	—	—	—
(B)	096,122	All other diseases classified as infective and parasitic	3	4	—	—	4	3
	136-138							
		SUB-TOTAL I ..	1,315	1,323	1,403	1,623	1,737	1,916
		II.—NEOPLASMS						
A 44	140-148	Malignant neoplasm of buccal cavity and pharynx ..	50	33	38	12	7	5
A 45	150	Malignant neoplasm of œsophagus ..	50	50	37	27	—	—
A 46	151	Malignant neoplasm of stomach ..	143	109	124	95	86	85
A 47		Malignant neoplasm of intestine except rectum:—						
(a)	152	Malignant neoplasm of small intestine, including duodenum	1	—	—	4	—	—
(b)	153	Malignant neoplasm of large intestine, except rectum	18	16	22	3	—	—
A 48	154	Malignant neoplasm of rectum ..	14	21	11	9	—	—
A 49	161	Malignant neoplasm of larynx ..	9	14	9	3	—	—
A 50	162-163	Malignant neoplasm of trachea, and of bronchus and lung not as secondary ..	72	59	55	28	18	18
A 51	170	Malignant neoplasm of breast ..	32	25	23	29	15	17
		Sub-Total II Carried forward ..	389	327	319	210	126	125
		Carried forward ..	1,704	1,650	1,722	1,833	1,863	2,041

— means nil.

Inter-mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	1,704	1,650	1,722	1,833	1,863	2,041
		Sub-Total II <i>Brought forward</i> ..	389	327	319	210	126	125
		II.—NEOPLASMS—contd.						
A 52	171	Malignant neoplasm of cervix uteri ..	33	34	29	43	32	30
A 53	172-174	Malignant neoplasm of other and unspecified parts of uterus ..	24	27	28	7		
A 54	177	Malignant neoplasm of prostate ..	2	2	3	4		
A 55	190-191	Malignant neoplasm of skin ..	12	20	8	10	8	1
A 56	196-197	Malignant neoplasm of bone and connective tissue ..	6	9	4	5		
A 57	155-156	Malignant neoplasm of all other and unspecified sites:—						
(a)	157	Malignant neoplasm of liver ..	74	77	75	62	52	48
(b)	158	Malignant neoplasm of pancreas ..	4	4	6	2		
(c)	159	Malignant neoplasm of peritoneum ..	1	4	6	10		
(d)		Malignant neoplasm of unspecified digestive organs ..	—	—	—	2	91	76
(e)	175-176	Malignant neoplasm of other and unspecified female genital organs	13	7	10	1	—	6
(f)	178-179	Malignant neoplasm of other and unspecified male genital organs	2	3	1	3	3	5
(g)	180-181	Malignant neoplasm of kidney, bladder and other urinary organs	8	17	11	17		
(h)	160							
	164-165			41	41	46	23	37
	192-195		52					
	198-199	Malignant neoplasm of all other and unspecified sites						
A 58	204	Leukæmia and Aleukæmia ..	27	23	23	23	11	12
A 59		Lymphosarcoma and other neoplasms of lymphatic and hæmatopoietic system:—						
(a)	200	Lymphosarcoma and reticulosarcoma ..	3	4	7	9		4
(b)	201	Hodgkin's disease ..	3	4	4	2	3	
		Sub-Total II <i>Carried forward</i> ..	653	603	575	456	349	344
		<i>Carried forward</i> ..	1,968	1,926	1,978	2,079	2,086	2,260

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	1,968	1,926	1,978	2,079	2,086	2,260
		Sub-Total II <i>Brought forward</i> ..	653	603	575	456	349	344
		II.—NEOPLASMS—contd.						
A 59 (c)	202-203 205	Other neoplasm of lymphatic and hæmatopoietic system ..	2	2	1	19		
A 60	210-211 213-217 218 212 219-229	Benign neoplasms and neoplasms of unspecified nature:— Benign neoplasm of buccal cavity, pharynx and digestive system .. Benign neoplasm of female genital organs .. Benign neoplasm of male genital organs .. Benign neoplasm of other and unspecified organs and tissue ..	2 2 — 19	1 1 — 13	4 — — 27	1 3 — 7	2 2	2 4
(e) (f) (g)	230 233-235 231-232 236-239	Neoplasm of unspecified nature of digestive organs .. Neoplasm of unspecified nature of other female genital organs .. Neoplasm of unspecified nature of other unspecified organs ..	— — 4	1 1 5	— — 14	— 2 21	6 11	— 6
		SUB-TOTAL II ..	682	627	621	509	370	356
		III.—ALLERGIC ENDOCRINE SYSTEM, METABOLIC AND NUTRITIONAL DISEASES						
		IV.—DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS						
A 61	250-251	Nontoxic goitre	—	—	—	1	1	1
A 62	252	Thyrototoxicosis with or without goitre	7	5	6	1	1	—
A 63	260	Diabetes mellitus	73	54	65	51	46	37
		Aggregate of Sub-Totals III and IV <i>Carried forward</i> ..	80	59	71	53	48	38
		<i>Carried forward</i> ..	2,077	2,009	2,095	2,185	2,155	2,310

— means nil.

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	2,077	2,009	2,095	2,185	2,155	2,310
		Aggregate of Sub-Totals III and IV <i>Brought forward</i> ..	80	59	71	53	48	38
A 64		III.—ALLERGIC ENDOCRINE SYSTEM, METABOLIC AND NUTRITIONAL DISEASES— <i>contd.</i>						
		IV.—DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS— <i>contd.</i>						
		Avitaminoses and other deficiency states:—						
	280	Beri-beri	93	100	129	257	256	246
(a)								
(b)	281	Pellagra	—	—	—	—	—	1
(c)	282	Scurvy	—	1	1	1	—	—
(d)	283-284	Rickets	1	2	1	—	—	2
(e)	285	Osteomalacia	—	—	—	—	—	—
(f)	286.0	Steatorrhœa and sprue	—	—	—	—	1	—
(g)	286.5	Malnutrition, unqualified	32	31	31	30	—	—
(h)	286.1-286.4 286.6	Other avitaminoses and nutritional deficiency states	16	34	41	45	1	—
A 65		Anæmias:—						
(a)	290	Pernicious and other hyperchromic anæmias	2	1	5	1	2	3
(b)	291	Iron deficiency anæmias (hypochromic)	—	—	—	—	—	—
(c)	292-293	Other specified and unspecified anæmias	48	24	26	44	66	49
A 66		Allergic disorders; all other endocrine, metabolic and blood diseases:—						
(a)	241	Asthma	155	156	164	136	160	110
(b)	240	Angioneurotic œdema, urticaria and other allergic disorders	—	—	—	—	—	—
(c)	242-245	Myxœdema and cretinism	1	—	—	—	—	—
(d)	253	Other diseases of thyroid gland	—	—	—	1	—	—
(e)	254	Disorders of pancreatic internal secretion other than diabetes mellitus	—	—	—	—	—	—
(f)	271	Diseases of parathyroid gland	—	—	—	2	—	6
(g)	272	Diseases of pituitary gland	—	—	—	—	1	—
		Aggregate of Sub-Totals III and IV <i>Carried forward</i> ..	428	408	469	570	535	455
		<i>Carried forward</i> ..	2,425	2,358	2,493	2,702	2,642	2,727

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	2,425	2,358	2,493	2,702	2,642	2,727
		Aggregate of Sub-Totals III and IV <i>Brought forward</i> ..	428	408	469	570	535	455
		III.—ALLERGIC ENDOCRINE SYSTEM, METABOLIC AND NUTRITIONAL DISEASES— <i>contd.</i>						
		IV.—DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS— <i>contd.</i>						
A 66	273	Diseases of thymus gland ..	—	1	—	—	—	1
(h)	274	Disease of adrenal gland ..	—	—	1	—	—	—
(i)	275-277	Other diseases of endocrine glands ..	—	—	—	1	—	—
(j)	288	Gout ..	—	—	—	—	—	1
(k)	287, 289	Other metabolic diseases ..	3	—	2	—	2	8
(l)								
(m)	294	Polycythemia ..	—	—	—	—	—	—
(n)	295	Hæmophilia ..	—	—	—	—	2	2
(o)	296	Purpura and other hæmorrhagic conditions ..	6	8	8	3	7	10
(p)	297	Agranulocytosis ..	—	—	—	—	—	—
(q)	298	Diseases of spleen ..	1	—	1	1	3	5
(r)	299	Other diseases of blood and blood-forming organs ..	—	—	1	10	—	—
		AGGREGATE OF SUB-TOTALS III AND IV ..	438	417	482	585	549	482
		V.—MENTAL, PSYCHONEUROTIC AND PERSONALITY DISORDERS						
A 67		Psychoses:—						
(a)	300	Schizophrenic disorders (dementia præcox) ..	2	6	5	1	—	—
(b)	301	Maniac-depressive reaction ..	1	7	1	3	—	—
(c)	302	Involutional melancholia ..	—	—	—	—	—	—
(d)	303	Paranoia and paranoid states ..	—	—	—	—	—	—
(e)	304	Senile psychoses ..	5	5	1	1	—	—
(f)	305-309	Other and unspecified psychoses ..	—	3	7	3	8	6
		Sub-Total V <i>Carried forward</i> ..	13	21	14	8	8	6
		<i>Carried forward</i> ..	2,448	2,388	2,520	2,725	2,664	2,760

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	2,448	2,388	2,520	2,725	2,664	2,760
		Sub-Total V <i>Brought forward</i> ..	13	21	14	8	8	6
A 68		V.—MENTAL, PSYCHONEUROTIC AND PERSONALITY DISORDERS— <i>contd.</i>						
		Psychoneurosis and disorders of personality:—						
(a)	311	Hysterical reaction ..	—	—	—	—	—	—
(b)	314	Neurotic-depressive reaction ..	—	—	—	—	—	2
(c)	322	Alcoholism ..	—	1	—	—	—	—
(d)	323	Other drug addiction ..	—	—	—	1	11	6
(e)	310, 312-313 315-321, 324 326 } }	Other psychoneurosis and disorders of personality ..	—	—	—	—	—	—
A 69	325	Mental deficiency ..	—	—	—	—	—	—
		SUB-TOTAL V ..	13	22	14	9	19	14
		VI.—DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS						
A 70		Vascular lesions affecting central nervous system:—					147	176
(a)	331	Cerebral hæmorrhage ..	301	257	185	190		
(b)	332	Cerebral embolism and thrombosis ..	72	67	28	39		
(c)	330 333-334 } }	Other vascular lesions affecting central nervous system ..	5	14	19	2		
A 71	340	Non-meningococcal meningitis ..	60	53	43	39	49	51
		Sub-Total VI <i>Carried forward</i> ..	438	391	275	270	196	227
		<i>Carried forward</i> ..	2,886	2,780	2,795	2,996	2,871	2,995

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	2,886	2,780	2,795	2,996	2,871	2,995
		Sub-Total VI <i>Brought forward</i> ..	438	391	275	270	196	227
		VI.—DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS— <i>contd.</i>						
A 72	345	Multiple sclerosis ..	—	—	—	—	—	—
A 73	353	Epilepsy ..	3	16	4	6	5	6
A 74	370 371-379	Inflammatory diseases of eye:— Conjunctivitis and ophthalmia .. Other inflammatory diseases of eye ..	— —	— —	— —	— —	— —	— —
A 75	385	Cataract ..	—	—	—	—	—	—
A 76	387	Glaucoma ..	—	—	—	1	—	—
A 77	390 391-393 394	Otitis media and mastoiditis:— Otitis externa .. Otitis media and mastoiditis .. Other inflammatory diseases of ear ..	— 22 —	— 16 —	— 25 —	1 17 —	11 — 1	— 14 1
A 78	380-384 386, 388 389	All other diseases of the nervous system and sense organs:— All other diseases and conditions of eye ..	—	—	—	—	1	2
	342	Intracranial and intraspinal abscess ..	6	6	5	—	—	—
	343	Encephalitis, myelitis and encephalomyelitis ..	54	43	47	39	29	29
	350	Paralysis agitans ..	1	2	3	2	6	4
	352	Other cerebral paralysis ..	101	104	77	2	—	—
	356	Motor neurone disease and muscular atrophy ..	—	—	—	—	2	2
	357	Other diseases of spinal cord ..	1	—	—	—	1	1
	366	Other and unspecified forms of neuralgia and neuritis ..	1	1	4	—	—	—
	367	Other diseases of cranial nerves ..	—	—	1	—	—	—
	369	Diseases of peripheral autonomic nervous system ..	—	—	—	—	—	—
		Sub-Total VI <i>Carried forward</i> ..	627	579	441	338	252	286
		<i>Carried forward</i> ..	3,075	2,968	2,961	3,064	2,927	3,054

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
A 78	341, 344 351, 354 355 360-365 368 395-398	<i>Brought forward</i> ..	3,075	2,968	2,961	3,064	2,927	3,054
		Sub-Total VI <i>Brought forward</i> ..	627	579	441	338	252	286
		VI.—DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS—contd.						
		All other diseases of the nervous system and sense organs ..	6	7	16	19	22	11
		SUB-TOTAL VI ..	633	586	457	357	274	297
A 79	400 401 402	VII.—DISEASES OF THE CIRCULATORY SYSTEM						
		Rheumatic fever:—						
		Rheumatic fever without mention of heart involvement ..	1	2	1	5	1	—
		Rheumatic fever with heart involvement ..	1	6	16	16	41	36
		Chorea ..	—	—	2	—	—	1
A 80	410-413 414 415 416	Chronic rheumatic heart disease:—						
		Diseases of valves specified as rheumatic ..	53	68	55	47	102	116
		Other endocarditis specified as rheumatic ..	32	7	21	17		
		Other myocarditis specified as rheumatic ..	1	1	—	—		
		Other heart disease specified as rheumatic ..	40	26	6	13		
A 81	420 421 422	Arteriosclerotic and degenerative heart disease:—						
		Arteriosclerotic heart disease, including coronary disease ..	189	159	140	107	120	85
		Chronic endocarditis not specified as rheumatic ..	44	53	52	30		
		Other myocardial degeneration ..	64	52	43	45		
		Sub-Total VII <i>Carried forward</i> ..	425	374	336	280	264	238
		<i>Carried forward</i> ..	3,506	3,349	3,313	3,363	3,213	3,303

—means nil

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
A 82		<i>Brought forward</i> ..	3,506	3,349	3,313	3,363	3,213	3,303
(a)		Sub-Total VII <i>Brought forward</i> ..	425	374	336	280	264	238
(b)		VII.—DISEASES OF THE CIRCULATORY SYSTEM—continued						
(c)		Other diseases of heart:—						
(d)	430	Acute and subacute endocarditis ..	16	10	9	9	12	20
(e)	431	Acute myocarditis not specified as rheumatic ..	4	4	8	5	47	51
	432	Pericarditis not specified as rheumatic ..	—	—	2	6	4	4
	433	Functional disease of heart ..	7	10	13	—	—	—
	434	Other and unspecified diseases of heart ..	229	196	179	382	343	291
A 83	440-443	Hypertension with heart disease ..	50	86	113	112	180	131
A 84	444-447	Hypertension without mention of heart ..	130	75	63	79	—	—
A 85		Disease of arteries:—						
(a)	450	General arteriosclerosis ..	21	8	24	32	32	37
(b)	451	Aortic aneurysm specified as non-syphilitic and dissecting aneurysm ..	1	2	4	11	—	1
(c)	452	Other aneurysm, except of heart and aorta ..	3	4	7	8	—	—
(d)	453	Peripheral vascular disease ..	1	—	—	—	—	—
(e)	454	Arterial embolism and thrombosis ..	—	—	—	1	3	4
(f)	455	Gangrene of unspecified cause ..	3	6	3	4	2	1
(g)	456	Other diseases of arteries ..	—	1	2	6	—	—
A 86		Other diseases of circulatory system:—						
(a)	460, 462	Varicose veins ..	5	3	—	—	3	—
(b)	461	Hæmorrhoids ..	—	1	—	—	—	—
(c)	463-464	Phlebitis and thrombophlebitis ..	1	1	—	1	—	—
(d)	465	Pulmonary embolism and infarction ..	2	3	5	2	—	3
(e)	466	Other venous embolism and thrombosis ..	—	—	—	4	—	—
(f)	467	Other diseases of circulatory system ..	—	1	12	—	1	—
(g)	468	Adenitis, Lymphadenitis, and other diseases of lymph nodes and lymph channels ..	—	1	1	3	—	3
		SUB-TOTAL VII ..	898	786	781	945	891	784
		<i>Carried forward</i> ..	3,979	3,761	3,758	4,028	3,840	3,849

—means nil

RETURN OF DEATHS BY CAUSES, 1950-55—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	3,979	3,761	3,758	4,028	3,840	3,849
		VIII.—DISEASES OF THE RESPIRATORY SYSTEM						
		Acute upper respiratory infections:—						
A 87	470	Acute nasopharyngitis (common cold)	2	2	1	—		
(a)	471	Acute sinusitis	1	—	—	—		
(b)	472	Acute pharyngitis ..	9	9	7	6		
(c)	473	Acute tonsillitis ..	9	2	3	1		
(d)	474	Acute laryngitis and tracheitis	3	3	4	5	3	1
(e)								
(f)	475	Acute upper respiratory infection of multiple or unspecified sites	—	10	—	—	2	2
A 88	480-483	Influenza..	25	30	39	22	22	45
A 89	490	Lobar Pneumonia ..	176	119	169	164	134	145
A 90	491	Broncho-pneumonia ..	667	732	909	925	1,059	1,006
A 91	492-493	Primary atypical, other and unspecified pneumonia ..	187	215	259	344	292	190
A 92	500	Acute bronchitis ..	13	36	25	35	40	39
A 93	501	Bronchitis, chronic and unqualified:—						
(a)	502	Bronchitis unqualified ..	19	22	5	11	32	101
(b)		Chronic bronchitis ..	109	151	161	159	172	153
A 94	510	Hypertrophy of tonsils and adenoids ..	—	—	—	—		
A 95	518	Empyema and Abscess of lung:—						
(a)		Empyema ..	14	8	18	9	7	16
(b)	521	Abscess of lung ..	7	11	10	12	13	10
		Sub-Total VIII <i>Carried forward</i> ..	1,241	1,350	1,610	1,693	1,776	1,708
		<i>Carried forward</i> ..	5,220	5,111	5,368	5,721	5,616	5,557

—means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	5,220	5,111	5,368	5,721	5,616	5,557
		Sub-Total VIII <i>Brought forward</i> ..	1,241	1,350	1,610	1,693	1,776	1,708
		VIII.—DISEASES OF THE RESPIRATORY SYSTEM—continued						
A 96	519	Pleurisy	6	4	3	5	6	16
A 97	517	All other respiratory diseases:—	6	7	1	3		
(a)	520	Other diseases of upper respiratory tract ..	3	1	1	—		
(b)	522	Spontaneous pneumothorax ..	14	5	8	2	2	1
(c)	525	Pulmonary congestion and hypostasis ..	4	5	2	3	1	1
(d)	523	Other chronic interstitial pneumonia ..	—	—	—	—		
(e)	526	Pneumoconiosis	27	22	25	10	21	18
(f)		Bronchiectasis						
(g)	511-516 524 527	All other respiratory diseases ..	10	15	32	90	178	225
		SUB-TOTAL VIII ..	1,311	1,409	1,682	1,806	1,984	1,969
		IX.—DISEASES OF THE DIGESTIVE SYSTEM						
		Diseases of teeth and supporting structures:—						
A 98	530	Dental caries	—	—	—	—	—	2
(a)	531, 532	Abscesses and other inflammatory diseases of supporting structures of teeth ..	—	—	—	—		
(b)	533-535	Other diseases of teeth and supporting structures ..	—	—	—	1		
(c)		Ulcer of stomach	72	69	66	89	62	47
A 99	540	Sub-Total IX <i>Carried forward</i> ..	72	69	66	90	62	49
		<i>Carried forward</i> ..	5,362	5,239	5,506	5,924	5,886	5,867

—means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	5,362	5,239	5,506	5,924	5,886	5,867
		<i>Sub-Total IX Brought forward</i> ..	72	69	66	90	62	49
		IX.—DISEASES OF THE DIGESTIVE SYSTEM—continued						
A 100	541	Ulcer of duodenum ..	29	16	10	9	21	44
A 101	543	Gastritis and duodenitis ..	38	31	10	13	12	21
A 102	550-553	Appendicitis ..	17	23	20	12	21	24
A 103		Intestinal obstruction and hernia:—						
(a)	560	Hernia of abdominal cavity without mention of obstruction	6	1	7	5	4	4
(b)	561	Hernia of abdominal cavity with obstruction	10	10	10	16	14	13
(c)	570.0	Intussusception ..	3	12	7	11		
(d)	570.3	Volvulus ..	1	4	1	24		
(e)	570.1, 570.2 570.4, 570.5	Other intestinal obstruction without mention of hernia	18	27	19	9	44	36
A 104	571.0	Gastro-enteritis and colitis, except diarrhoea of the newborn:—	531	662	743	746	944	953
(a)		Gastro-enteritis and colitis, ages between 4 weeks and 2 years						
(b)	571.1	Gastro-enteritis and colitis, ages 2 years and over ..	137	173	193	246	179	150
(c)	572	Chronic enteritis and ulcerative colitis ..	4	14	12	—		
A 105	581.0 581.1	Cirrhosis of liver:—						
(a)		Cirrhosis of liver without mention of alcoholism ..	77	92	78	37	88	66
(b)		Cirrhosis of liver with alcoholism ..	—	—	—	42	—	—
A 106	584 585	Cholelithiasis and Cholecystitis:—						
(a)		Cholelithiasis ..	6	17	9	1	5	4
(b)		Cholecystitis without mention of calculi ..	15	5	7	7	10	9
		<i>Sub-Total IX Carried forward</i> ..	964	1,156	1,192	1,268	1,404	1,373
		<i>Carried forward</i> ..	6,254	6,326	6,632	7,102	7,228	7,191

—means nil.

APPENDIX V—continued
RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
A 107	<i>Brought forward ..</i>		6,254	6,326	6,632	7,102	7,228	7,191
	Sub-Total IX <i>Brought forward ..</i>		964	1,156	1,192	1,268	1,404	1,373
	IX.—DISEASES OF THE DIGESTIVE SYSTEM—contd.							
	(a)	Other diseases of Digestive System:—						
		Stomatitis	2	3	1	2	5	3
	(b)	Other diseases of buccal cavity	—	—	—	2		
	(c)	Functional disorders of oesophagus	—	—	1	1		
	(d)	Other diseases of oesophagus	1	5	3	2	18	28
	(e)	Disorders of function of stomach	3	—	—	15	63	58
	(f)	Other diseases of stomach and duodenum	14	12	17	25		
	(g)	Constipation	—	—	—	—	—	—
	(h)	Other functional disorders of intestines	1	—	—	1		
	(i)	Anal fissure and fistula	—	—	—	—		
	(j)	Abscess of anal and rectal regions	—	1	—	3		
	(k)	Peritonitis	24	15	18	16	16	26
	(l)	Other diseases of intestines and peritoneum	2	3	6	4	3	1
	(m)	Acute yellow atrophy of liver	22	13	14	12	8	1
	(n)	Other diseases of liver	21	25	24	38	22	28
	(o)	Other diseases of gall-bladder and biliary ducts	3	3	3	3	5	9
	(p)	Diseases of pancreas	9	3	1	3	6	3
	SUB-TOTAL IX ..		1,066	1,239	1,280	1,395	1,550	1,530
A 108	X.—DISEASES OF THE GENITO-URINARY SYSTEM							
		Acute nephritis	16	23	19	28	33	21
	Sub-Total X <i>Carried forward ..</i>		16	23	19	28	33	21
	<i>Carried forward ..</i>		6,372	6,432	6,739	7,257	7,407	7,369
	—mean nil.							

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward ..</i>	6,372	6,432	6,739	7,257	7,407	7,369
		<i>Sub-Total X Brought forward ..</i>	16	23	19	28	33	21
		X.—DISEASES OF THE GENITO-URINARY SYSTEM—contd.						
A 109	591	Chronic, other and unspecified nephritis:—						
(a)	592	Nephritis with oedema, including nephrosis	6	6	6	2		
(b)	593	Chronic nephritis ..	125	168	176	188	167	146
(c)		Nephritis not specified as acute or chronic	98	68	53	110	87	53
(d)	594	Other renal sclerosis ..	—	—	—	1		
A 110	600	Infections of kidney ..	47	19	15	—	16	15
A 111	602	Calculi of urinary system:—	6	2	2	3	1	—
(a)		Calculi of kidney and ureter ..					2	
(b)	604	Calculi of other parts of urinary system ..	—	—	1	6	2	1
A 112	610	Hyperplasia of prostate ..	5	6	3	—	—	—
A 113	620-621	Diseases of breast ..	—	—	—	—	—	—
A 114	603	Other diseases of genito-urinary system:—						
(a)	605	Other diseases of kidney and ureter	1	1	—	6	6	1
(b)	606	Cystitis ..	3	5	2	4	1	1
(c)	608	Other diseases of bladder ..	4	1	2	2	1	—
(d)		Stricture of urethra ..	1	3	2	—	1	—
(e)	607, 609	Other diseases of urethra ..	—	—	1	—	1	—
(f)	612	Other diseases of prostate ..	—	1	3	2	6	2
(g)	613	Hydrocele ..	—	—	—	—	—	—
(h)	614	Orchitis and epididymitis ..	—	—	—	1	—	—
(i)	611	Other diseases of male genital organs ..	2	2	—	—	1	1
(j)	615-617 622-624	Salpingitis and oophoritis ..	2	4	1	1	—	—
		<i>Sub-Total X Carried forward ..</i>	316	309	286	354	322	241
		<i>Carried forward ..</i>	6,672	6,718	7,006	7,583	7,696	7,589

—mean nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
A 114		<i>Brought forward</i> ..	6,672	6,718	7,006	7,583	7,696	7,589
		Sub-Total X <i>Brought forward</i> ..	316	309	286	354	322	241
		X.—DISEASES OF THE GENITO-URINARY SYSTEM— <i>contd.</i>						
	625	Other diseases of ovary and Fallopian tube ..	—	—	—	—	5	—
	626	Diseases of parametrium and pelvic peritoneum (female) ..	1	2	—	—	—	—
	630	Infective disease of uterus, vagina and vulva ..	5	1	1	—	—	—
	631-633	Other diseases of uterus ..	—	2	1	3	2	—
	634	Disorders of menstruation ..	—	—	—	—	2	—
	635-637	Other diseases of female genital organs ..	—	—	—	1	2	1
	601	All other diseases of the genito-urinary system ..	1	—	—	3	—	—
		SUB-TOTAL X ..	323	314	288	361	331	242
A 115		XI.—DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILD BIRTH AND THE PUERPERIUM						
		Sepsis of pregnancy, childbirth and the puerperium:—						
	640	Pyelitis and pyelonephritis of pregnancy ..	—	—	—	—	—	—
	641	Other infections of genito-urinary tract during pregnancy ..	—	1	—	—	—	—
	681	Sepsis of childbirth and the puerperium ..	4	8	4	2	—	5
	682	Puerperal phlebitis and thrombosis ..	—	—	—	—	—	—
	684	Puerperal pulmonary embolism ..	—	—	1	—	—	—
		Toxæmias of pregnancy and the puerperium:—						
	642.2	Pre-eclampsia of pregnancy ..	3	4	—	3	—	4
	642.3	Eclampsia of pregnancy ..	4	8	7	13	8	10
A 116		Sub-Total XI <i>Carried forward</i> ..	11	21	12	18	8	19
		<i>Carried forward</i> ..	6,690	6,744	7,020	7,608	7,713	7,609

— means nil

RETURN OF DEATHS BY CAUSES, 1950-55—continued

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Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	6,690	6,744	7,020	7,608	7,713	7,609
		Sub-Total XI <i>Brought forward</i> ..	11	21	12	18	8	19
		XI.—DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILD BIRTH AND THE PUERPERIUM—contd.						
		Hyperemesis gravidarum ..	—	1	1	—	—	—
	642.4	Acute yellow atrophy of liver of pregnancy ..	—	—	—	—	—	—
	642.5	Other toxæmias of pregnancy ..	6	11	10	14	15	16
		Abortion with toxæmia, without mention of sepsis ..	—	—	—	—	—	—
	652	Puerperal eclampsia ..	—	—	—	—	—	—
	685	Other forms of puerperal toxæmia ..	—	—	—	2	13	8
	642.0, 642.1	Hæmorrhage of pregnancy and childbirth:—	—	—	2	5	—	—
	686	Placenta prævia ..	—	—	—	—	—	—
	643	Other hæmorrhage of pregnancy ..	—	1	1	5	1	5
	644	Delivery complicated by placenta prævia or antepartum hæmorrhage ..	—	—	4	5	4	6
	670	age ..	5	4	—	2	—	—
	671	Delivery complicated by retained placenta ..	3	6	3	1	—	—
	672	Delivery complicated by other postpartum hæmorrhage ..	12	17	18	17	—	—
		Abortion without mention of sepsis or toxæmia ..	4	—	1	1	3	3
	650	Abortion with sepsis ..	1	—	2	1	1	—
	651	Other complications of pregnancy, childbirth and the puerperium:—						
		Ectopic pregnancy ..	2	2	5	1	5	3
	645	Anæmia of pregnancy ..	1	1	—	—	—	—
	646	Delivery without complications ..	1	2	1	1	—	—
	660	Pyrexia of unknown origin during the puerperium..	—	2	1	—	1	1
	683	Mastitis and other disorders of lactation ..	—	—	—	—	—	—
	689	Other complications of pregnancy, childbirth and the puerperium	6	20	6	14	29	25
	647-649							
	673-680							
	687, 688							
		SUB-TOTAL XI ..	52	88	68	87	80	86
		<i>Carried forward</i> ..	6,731	6,811	7,076	7,677	7,785	7,676

—means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	6,731	6,811	7,076	7,677	7,785	7,676
		XII.—DISEASES OF THE SKIN AND CELLULAR TISSUE						
		XIII.—DISEASES OF THE BONES AND ORGANS OF MOVEMENT						
		Infections of skin and subcutaneous tissue:—						
A 121	690	Boil and carbuncle	3	3	3	5	—	3
(a)	691-693	Cellulitis and abscess	11	21	29	24	41	33
(b)	694-698	Other infections of skin and subcutaneous tissue ..	—	—	3	5	25	12
(c)								
		Arthritis and spondylitis:—						
A 122	720	Acute arthritis due to pyogenic organisms	—	1	—	—	}	
(a)	721	Acute nonpyogenic arthritis	—	—	—	—		
(b)	722	Rheumatoid arthritis and allied conditions	5	1	1	—		
(c)	723-725	Arthritis specified and unspecified	2	—	—	1	3	5
(d)								
		Muscular rheumatism and rheumatism, unspecified:—						
A 123	726	Muscular rheumatism	1	1	—	—		
(a)	727	Rheumatism unspecified	—	—	1	—		
(b)								
A 124	730	Osteomyelitis and periostitis	2	1	3	5	—	4
		Ankylosis and acquired musculoskeletal deformities:—						
A 125	737	Ankylosis of joint	—	—	—	—		
(a)	745-749	Other acquired musculoskeletal deformities	—	—	—	—		
(b)								
		All other diseases of skin and musculoskeletal system:—						
A 126	715	Chronic ulcer of skin (including tropical ulcer)	2	2	1	1		
(a)	700-714	All other diseases of skin nad subcutaneous tissue ..	9	8	10	6		
(b)	731-736	All other diseases of musculoskeletal system	1	—	3	2	3	2
	738-744							
		Aggregate of Sub-Totals XII and XIII ..	36	38	54	49	72	59
		<i>Carried forward</i> ..	6,767	6,849	7,130	7,726	7,857	7,735

—mean nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward ..</i>	6,767	6,849	7,130	7,726	7,857	7,735
		XIV.—CONGENITAL MALFORMATIONS						
A 127	751	Spina bifida and meningocele ..	7	13	6	5	2	1
A 128	754	Congenital malformations of circulatory system ..	55	75	41	18	46	40
A 129	750	All other congenital malformations:—	5	13	8	6	—	1
(a)	752	Monstrosity ..	6	6	5	7	7	7
(b)	753	Congenital hydrocephalus ..	3	1	1	4	—	—
(c)		Other congenital malformations of nervous system and sense organs ..	2	3	1	—	—	—
(d)	755	Cleft palate and harelip ..	1	4	5	1	2	1
(e)	756.0	Congenital hypertrophic pyloric stenosis ..	8	4	12	3	6	8
(f)	756.1	Imperforate anus ..	17	17	16	16	—	—
(g)	756.2	Other congenital malformations of digestive system ..	2	3	5	4	—	—
(h)	757	Congenital malformations of genito-urinary system ..	—	—	—	1	—	—
(i)	758	Congenital malformations of bone and joint ..	9	4	9	14	20	20
(j)	759	Other and unspecified congenital malformations, not elsewhere classified ..						
		SUB-TOTAL XIV ..	115	143	109	79	83	78
		XV.—CERTAIN DISEASES OF EARLY INFANCY						
		Birth injuries:—						
A 130	760	Intracranial and spinal injury at birth ..	34	51	84	45	—	2
(a)	761	Other birth injury ..	5	2	5	—	3	—
(b)								
A 131	762	Postnatal asphyxia and atelectasis ..	109	135	127	65	57	39
		Sub-Total XV Carried forward ..	148	188	216	110	60	41
		Carried forward ..	7,030	7,180	7,455	7,915	8,000	7,854

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward</i> ..	7,030	7,180	7,455	7,915	8,000	7,854
		Sub-Total XV <i>Brought forward</i> ..	148	188	216	110	60	41
		XV.—CERTAIN DISEASES OF EARLY INFANCY—continued.						
A 132		Infections of the newborn:—						
(a)	763	Pneumonia of newborn ..	78	99	184	172		
(b)	764	Diarrhoea of newborn ..	114	123	251	257		
(c)	765	Ophthalmia neonatorum ..	—	—	4	—		
(d)	766	Pemphigus neonatorum ..	—	—	—	3	—	—
(e)	767	Umbilical sepsis ..	3	3	2	3	68	27
(f)	768	Other sepsis of newborn ..	1	—	3	11		
A 133	770	Hamolytic disease of newborn ..	109	50	146	45	77	46
A 134	769 771-772	All other defined diseases of early infancy ..	14	22	35	78	12	38
A 135		Ill-defined diseases peculiar to early infancy, and immaturity unqualified:—						
(a)	773	Ill-defined diseases peculiar to early infancy ..	30	47	89	126	106	90
(b)	774-776	Immaturity and immaturity unqualified ..	558	637	514	449	454	570
		SUB-TOTAL XV ..	1,055	1,169	1,444	1,254	777	812
		XVI.—SYMPTOMS, SENILITY AND ILL-DEFINED CONDITIONS						
A 136	794	Senility without mention of psychoses ..	876	722	781	925	1,027	1,033
		Sub-Total XVI <i>Carried forward</i> ..	876	722	781	925	1,027	1,033
		<i>Carried forward</i> ..	8,813	8,883	9,464	9,984	9,744	9,658

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter-mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
A 137	(a)	<i>Brought forward</i> ..	8,813	8,883	9,464	9,984	9,744	9,658
		Sub-Total XVI <i>Brought forward</i> ..	876	722	781	925	1,027	1,033
	(b)	XVI.—SYMPTOMS, SENILITY AND ILL-DEFINED CONDITIONS—continued.						
		Ill-defined and unknown causes of morbidity and mortality:—						
		Symptoms referable to systems or organs ..	877	964	1,077	1,055	1,399	1,364
	(c) (d) (e) (f) (g)	Pyrexia of unknown origin ..	179	200	320	445	660	724
		Observation, without need for further medical care..	—	—	—	—	—	—
		Malingering ..	1	—	—	—	—	—
		Sudden death (cause unknown) ..	—	—	1	—	—	—
		Found dead (cause unknown) ..	19	20	23	20	29	23
AE 138 AE 139	(a) (b)	Other ill-defined and unknown causes of morbidity and mortality	168	234	159	89	117	72
		SUB-TOTAL XVI ..	2,120	2,140	2,361	2,534	3,232	3,216
	(a) (b)	XVII.—ACCIDENTS, POISONINGS AND VIOLENCE						
		“E” Code: <i>Alternative Classification of Accidents, Poisonings and Violence (External Cause)</i>						
		Motor vehicle accidents ..	60	98	124	125	105	101
		Other transport accidents:—						
		Railway accidents ..	2	1	—	2	3	1
		Water transport accidents ..	1	7	10	4		
	(a) (b)	Sub-Total XVII <i>Carried forward</i> ..	63	106	134	131	108	102
		<i>Carried forward</i> ..	10,120	10,407	11,178	11,724	12,057	11,943

— means nil.

APPENDIX V—continued
RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward ..</i>	10,120	10,407	11,178	11,724	12,057	11,943
		Sub-Total XVII <i>Brought forward ..</i>	63	106	134	131	108	102
AE 139	E860-E866 E840-E845	XVII.—ACCIDENTS, POISONINGS AND VIOLENCE— <i>continued.</i> Aircraft accidents Other road vehicle accidents	— 1	36 2	— 1	1 2		
AE 140	E870 E874 E878 E883	Accidental poisoning:— Accidental poisoning by morphine and other opium derivatives.. Accidental poisoning by other analgesic and soporific drugs .. Accidental poisoning by other and unspecified drugs .. Accidental poisoning by corrosive aromatics, acids and caustic alkalies	— — — 3	— — — 2	— 1 — — —	— 1 — — —	— — — —	
	E884 E885 E886	Accidental poisoning by mercury and its compounds .. Accidental poisoning by lead and its compounds .. Accidental poisoning by arsenic and antimony and their compounds	— — 1	— 1 — —	— — —	— — —	— — —	
	E888	Accidental poisoning by other and unspecified solid or liquid sub- stances	1	—	1	—	1	1
	E890-E895 E871-E873 E875-E877 E879-E882 E887	Accidental poisoning by gases and vapours Other accidental poisoning	— 1	— 3	— 26	— 5	— 2	— 6
AE 141	E900-E904	Accidental falls	60	4	2	3	15	9
AE 142	E912	Accident caused by machinery	—	4	—	—	2	2
AE 143	E916	Accident caused by fire and explosion of combustible material ..	—	9	1	8	12	23
AE 144	E917-E918	Accident caused by hot substance, corrosive liquid, steam and radia- tion	28	14	8	—	2	2
		Sub-Total XVII <i>Carried forward ..</i>	158	181	174	151	142	146
		<i>Carried forward ..</i>	10,215	10,482	11,218	11,744	12,091	11,987

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

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Inter-mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
		<i>Brought forward ..</i>	10,215	10,482	11,218	11,744	12,091	11,987
		Sub-Total XVII <i>Brought forward ..</i>	158	181	174	151	142	146
		XVII.—ACCIDENTS, POISONINGS AND VIOLENCE—continued.						
AE 145	E919	Accident caused by firearm	1	1	1	1	1	1
AE 146	E929	Accidental drowning and submersion	63	60	48	63	52	60
AE 147		All other accidental causes:—						
(a)	E913	Accidents caused by cutting or piercing instruments					1	
(b)	E914	Accidents caused by electric current	5	5	3	1	6	3
(c)	E920	Foreign body entering eye and adnexa		1				
(d)	E923	Foreign body entering other orifice					1	1
(e)	E924, E925	Accidental mechanical suffocation	1				1	
(f)	E926	Lack of care of infants under one year of age						
(g)	E927	Accidents caused by bites and stings of venomous animals and insects			2		2	1
(h)	E928	Other accidents caused by animals		1				
(i)	E931	Excessive heat						
(j)	E932	Excessive cold						
(k)	E933	Hunger, thirst and exposure						
(l)	E934	Cataclysm						
(m)	E935	Lightning	2	2		5		4
(n)	E936	Other and unspecified accidents		94		2		
(o)	E940, E941	Vaccinia including post-vaccinal encephalitis						
(p)	E942	Other complications of small-pox vaccination						
(q)	E954	Anæsthetic accidents		1	7	2		
(r)	E943-E946 E950-E953 E955-E959	Accidents due to medical or surgical intervention	1	2	1	2		
		Sub-Total XVII <i>Carried forward ..</i>	231	348	236	227	206	216
		<i>Carried forward ..</i>	10,288	10,649	11,280	11,820	12,155	12,057

— means nil.

APPENDIX V—continued

RETURN OF DEATHS BY CAUSES, 1950-55—continued

Inter- mediate List Number	Detailed List Numbers	CAUSE OF DEATH (Intermediate International List, Sixth Revision, 1948)	1955	1954	1953	1952	1951	1950
AE 147	(s)	<i>Brought forward ..</i>	10,288	10,649	11,280	11,820	12,155	12,057
		<i>Sub-Total XVII Brought forward ..</i>	231	348	236	227	206	216
		XVII.—ACCIDENTS, POISONINGS AND VIOLENCE— <i>continued.</i>						
		All other accidental causes	126	2	95	94	104	89
		Suicide and self-inflicted injury:—						
AE 148	(a) (b) (c) (d) (e) (f) (g) (h) (i) (j)	Suicide and self-inflicted injury by analgesic and soporific substances	6	1	—	—	}	79
		Suicide and self-inflicted injury by other solid and liquid substances	44	44	63	52		40
		Suicide and self-inflicted injury by gases in domestic use	—	—	1	—	—	—
		Suicide and self-inflicted injury by other gases	—	1	—	1	—	—
		Suicide and self-inflicted injury by hanging or strangulation	60	51	51	38	34	43
		Suicide and self-inflicted injury by submersion (drowning)	6	7	18	10	5	9
		Suicide and self-inflicted injury by firearms and explosives	2	4	5	6	1	—
		Suicide and self-inflicted injury by cutting or piercing instruments	3	2	5	6	6	7
		Suicide and self-inflicted injury by jumping from high places	9	8	11	1	—	1
		Suicide and self-inflicted injury by other and unspecified means	9	3	4	11	10	8
AE 149	(a) (b) (c) (d)	Homicide and injury purposely inflicted by other persons (not in war):—						
		Non-accidental poisoning by another person	2	—	—	1	—	—
		Assault by firearms and explosives	2	5	6	10	8	6
		Assault by cutting and piercing instruments	4	7	9	6	6	10
		Assault by other means	12	3	8	2	9	2
AE 150	(e) (f)	Injury by intervention of police	—	—	—	—	—	—
		Execution (legal)	—	2	—	2	3	1
		Injury resulting from operations of war	—	1	—	—	—	—
			516	489	512	467	432	471
		SUB-TOTAL XVII ..			516	489	512	467	432	471
GRAND TOTAL ..			10,573	10,790	11,556	12,060	12,381	12,312

— means nil.

APPENDIX VI

TOTAL SHOWING MAIN CAUSES OF MORBIDITY OF IN-PATIENTS
IN THE GENERAL HOSPITAL, FOR THE YEAR 1955 AND 1954

Causes of Death	1955		1954	
	Admissions	Deaths	Admissions	Deaths
Enteric Group	91	6	121	7
Typhus	22	..	36	..
Malaria	87	4	112	4
Diphtheria	20	2	28	4
Influenza	30	..	21	..
Dysentery, Diarrhoea and Enteritis	1,335	232	1,146	233
Leprosy	66	..	19	..
Tuberculosis Respiratory System	742	119	639	75
Other Tuberculosis Diseases ..	572	121	505	101
Cancer	1,070	235	1,098	212
Beri Beri	53	7	28	7
Cerebral Hæmorrhage ..	148	100	112	73
Diabetes	243	17	276	14
Bronchitis	513	16	500	9
Pneumonia All Forms ..	1,158	255	1,108	279
Other Respiratory Diseases ..	2,308	49	2,205	57
Ulcer of Stomach, Duodenum, etc.	675	32	565	31
Ankylostomiasis	48	..	46	1
Other Intestinal Parasites ..	112	3	72	3
Appendicitis	1,154	16	1,000	14
Cirrhosis of Liver	158	31	175	45
Acute and Chronic Nephritis ..	499	55	533	57
Venereal Affections	193	16	112	26
Congenital Debility, Malnutrition, Premature Birth, etc. ..	510	79	159	42
Suicidal	166	28	203	38
Other forms of Violence ..	3,716	202	2,979	134
Other Diseases	11,729	693	12,895	852
Total ..	27,418	2,318	26,693	2,318

APPENDIX VII

RETURN OF SPECIMENS EXAMINED IN CLINICAL LABORATORIES I AND
II AND OUT-PATIENTS DEPARTMENT OF THE GENERAL HOSPITAL
FROM 1ST JANUARY TO 31ST DECEMBER, 1955

Examination of Blood—Physiological:—

Leucocyte Count	...	...	...	...	16,620
Differential Leucocyte Count	...	...	...	...	16,249
Erythrocyte Count	...	...	...	...	11,141
Estimation of Hæmoglobin	...	...	...	...	17,748
Blood Picture:	...	...	...	...	384
Myeloid Leukæmia	...	...	...	...	19
Parasite Count	...	...	...	...	17
Size of R.B.C. (Average)	...	...	...	...	106
Reticulocyte Count	...	...	...	...	1,162
Thrombocyte Count	...	...	...	...	1,181
Bleeding Time	...	...	...	...	465
Coagulation Time	...	...	...	...	494
Colour Index	...	...	...	...	44
Fragility of R.B.C.	...	...	...	...	66
Packed Cell Volume	...	...	...	...	388
M.C.V.	...	...	...	...	17
M.C.H.C.	...	...	...	...	14
Eosinophil Count	...	...	...	...	47
Prothrombin Time	...	...	...	...	1,350
Blood Sedimentation Rate	...	...	...	...	9,231
Blood Clot Retraction Test	...	...	...	...	2
					<hr/>
					76,745

Examination of Blood—Biochemical:—

Blood Urea	...	...	...	...	3,423
Sugar	...	...	...	...	822
Cholesterol	...	...	...	...	431
Uric Acid	...	...	...	...	63
Calcium	...	...	...	...	72
Phosphates	...	...	...	...	43
Chlorides	...	...	...	...	24
Protein	...	...	...	...	1,592
Creatine	...	...	...	...	1
Creatinine	...	...	...	...	8
Icteric Index	...	...	...	...	563
Van den Bergh Reaction	...	...	...	...	374
Glucose Tolerance Test—Cases*	...	...	...	...	549*
Spec.	...	...	...	...	2,775
Takata Area Test—Negative	...	...	...	...	92
Positive	...	...	...	...	201
Alkaline Reserve	...	...	...	...	112
Alkaline Phosphatase	...	...	...	...	446
Serum Amylase	...	...	...	...	82
					<hr/>
Carried forward					11,124

Carried forward ...

 76,745

* Not included in total.

				<i>Brought forward</i> ...	76,745
			<i>Brought forward</i> ...	11,124	
Serum Bilirubin	...	...	...	916	
Thymol Turbidity	...	...	...	466	
Acid Phosphatase	...	...	...	2	
Chopra's Antimony Test	...	...	...	21	
Formal Gel Test—Negative	...	...	...	20	
Positive	...	...	...	5	
Cephalin Cholesterol Flocculation Test	...	...	...	2	
Buffer Precipitation Test	...	...	...	1	
Bromsulphalein Test	...	...	...	45	
				<hr/>	12,602
Examination of Urine—Biochemical:—					
Urea Clearance Test	...	...	...	44	
Urea Concentration Test—Spec.	...	...	...	60	
Cases*	...	...	...	20*	
Urine Urea	...	...	...	10	
Bence Jones Protein	...	...	...	13	
Addis Count	...	...	...	94	
Creatine	...	...	...	6	
Creatinine	...	...	...	3	
Esbach's Test	...	...	...	20	
Urinary Diastase	...	...	...	286	
Chloride	...	...	...	29	
Diazo Reaction	...	...	...	6	
Ozazone Test	...	...	...	5	
Urine Hippuric Acid Test	...	...	...	24	
Water Concentration Test	...	...	...	7	
Dilution Test	...	...	...	1	
Water Elimination Test	...	...	...	5	
Porphyrine Band	...	...	...	1	
Phosphate	...	...	...	1	
Ascorbic Acid Test	...	...	...	2	
Amino Acid	...	...	...	1	
Fats	...	...	...	1	
				<hr/>	619
Examination of Urine—Routine:—					
Microscopic Examination and Alb.	...	...	...	52,985	
Chemical Examination (Acetone, Sugar, etc.)	...	...	...	24,227	
Twenty-four hour specimen for T.B.	...	...	...	15	
Urine Microfilaria	...	...	...	2	
Reaction	...	...	...	65	
Smear for Trichomonas	...	...	...	488	
Specific Gravity	...	...	...	6	
				<hr/>	77,788
			<i>Carried forward</i> ...	167,754	

* Not included in total.

					<i>Brought forward</i> ...	167,754
Examination of Cerebro-Spinal Fluid:—						
Routine Examination	...	...	...	...	4,483	
Sugar Estimation	...	...	...	...	2,741	
C.S.F. for T.B.—Negative	...	...	...	...	312	
Positive	...	...	...	...	36	
Smears—Pneumococci	...	...	...	...	41	
Grams Neg. Bacilli	...	...	...	...	21	
Other Organisms	...	...	...	...	5	
					<hr/>	7,639
Examination of Cisternal and Other Body Fluids:—						
Sternal Smear—Myelogram	...	...	...	...	397	
Pleural Fluid—Cytology and Org.	...	...	...	...	263	
Ascitic Fluid—Cytology and Org.	...	...	...	...	105	
Hydrocele Fluid for Micro-filaria	...	...	...	...	6	
Other Body Fluids (Synovial, etc.)	...	...	...	...	72	
					<hr/>	843
Examination of Gastric Contents:—						
Fractional Test Meal—Spec.	...	...	...	...		3,432
Examination of Blood Films:—						
Malarial Parasites—Subtertian	...	...	...	...	141	
Benign tertian	...	...	...	...	82	
Negative	...	...	...	...	13,869	
Micro-Filaria—Negative	...	...	...	...	1,654	
Positive	...	...	...	...	109	
Punctate Basophilia—Negative	...	...	...	...	128	
Positive	...	...	...	...	36	
					<hr/>	16,019
Examination of Sputa:—						
Tubercle Bacilli—Negative	...	...	...	...	11,703	
Positive	...	...	...	...	621	
Ova—Paragonimus	...	...	...	...	164	
					<hr/>	12,488
Examination of Smears:—						
Prostatic Smear for G.C.—Negative	...	...	...	...	155	
Positive	...	...	...	...	4	
Urethral Smear for G.C.—Negative	...	...	...	...	51	
Positive	...	...	...	...	9	
Vaginal Smear for G.C.—Negative	...	...	...	...	28	
Positive	...	...	...	...	1	
Cervical Smear for G.C.—Negative	...	...	...	...	5	
Positive	...	...	...	...	1	
Eye Smear for G.C.—Negative	...	...	...	...	10	
Positive	...	...	...	...	5	
					<hr/>	
<i>Carried forward</i> ...					269	
					<hr/>	
<i>Carried forward</i> ...						208,175

				<i>Brought forward</i> ...	208,175
				<i>Brought forward</i> ...	269
Eye Smear for O.O.—Negative	...	...	...	6	
Positive	...	...	...	8	
Nasal and Throat Swabs for K.L.B.—Negative	...	...	...	264	
Positive	...	...	...	1	
Nasal and Throat Swabs for O.O.—Positive	...	...	...	262	
Ear and Skin Clip for L.B.—Negative	...	...	...	139	
Positive	...	...	...	22	
Skin Scraping for Fungi—Negative	...	...	...	43	
Positive	...	...	...	9	
Pus for Organisms	...	...	...	129	
Skin Scraping for Scabies	...	...	...	6	
				<hr/>	1,158
Examination of Stools:—					
Amœba—Negative	...	...	...	2,357	
Entamœba Histolytica	...	...	...	89	
Entamœba Cysts	...	...	...	5	
Entamœba Nana	...	...	...	3	
Giardia Lamblia	...	...	...	4	
Trichomanas Hominis	...	...	...	4	
Strongyloides Stercoralis	...	...	...	22	
Occult Blood—Negative	...	...	...	767	
Positive	...	...	...	1,571	
Tubercle Bacilli—Negative	...	...	...	3	
Ova—Negative	...	...	...	12,159	
Ankylostoma	...	...	...	1,901	
Ascaris	...	...	...	2,100	
Trichuris Trichuria	...	...	...	351	
Oxyuris Vermicularis	...	...	...	38	
Tænia Anginata	...	...	...	5	
Clonorchis Seminsis	...	...	...	4	
Anky and Ascaris	...	...	...	435	
Anky and T. Trichuria	...	...	...	258	
Ascaris and T. Trichuria	...	...	...	312	
Anky, Ascaris and T. Trichuria	...	...	...	164	
Stool for Bile	...	...	...	19	
				<hr/>	22,571
E.C.G. (Cases)	...	...	...		2,323
B.M.R. (Cases)	...	...	...		1,136
Vital Capacity Test	...	...	...		3
Clinical Photography	...	...	...		122
Medical I's Leukæmia and Anæmia Research	...	...	...		3,995
				Total ...	<hr/> 239,483 <hr/>

APPENDIX VIII

RETURN OF SPECIMENS EXAMINED AT THE CLINICAL LABORATORY,
KANDANG KERBAU HOSPITAL FROM 1ST JANUARY TO
31ST DECEMBER, 1955

Examination of Blood:—

T.W. and D.C.	...	...	...	...	3,528	
T.R. and Hb.	...	...	...	...	12,821	
Thrombocyte count	...	...	...	...	42	
Clotting and Bleeding Time	...	...	...	...	87	
Reticulocyte Count	...	...	...	...	133	
Blood Picture	...	...	...	...	117	
Colour Index	...	...	...	...	5	
Prothrombin Time	...	...	...	...	44	
Fragility of R.B.C.	...	...	...	...	2	
M.C.V.	...	...	...	...	1	
M.C.H.C.	...	...	...	...	1	
					<hr/>	16,781

Examination of Urine:—

M.E.	...	...	...	...	6,019	
C.E.	...	...	...	...	11,219	
Chlorides	...	...	...	...	31	
Esbach's Est. of Proteins	...	...	...	...	225	
Spectroscopic Exam	...	...	...	...	7	
Specific Gravity	...	...	...	...	1	
					<hr/>	17,502

Examination of Stools:—

Ova—Positive	...	...	...	...	1,006	
Negative	...	...	...	...	720	
Amœba—Positive	...	...	...	...	3	
Negative	...	...	...	...	108	
Occult Blood—Positive	...	...	...	...	11	
Negative	...	...	...	...	11	
Bile	...	...	...	...	1	
					<hr/>	1,860

Examination of Sputum:—

T.B.—Positive	1	
Negative	219	
T.B.—M.E.	5	
					<hr/>	225

Carried forward ... 36,368

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Brought forward ... 36,368

Examination of Blood Films:—

Negative	751
Microfilaria	38
Punctate Basspilia		...	...	...	...	1
						<hr/> 790

Examination of Smears:—

Eye	...	...	...	...	...	349
Others	...	...	...	...	...	442
L.B.	...	...	...	...	...	8
						<hr/> 799

Toad Test for Pregnancy	...	...	...	1,343
Seminal Appraisals	...	...	...	410
Blood Urea	...	...	...	1,005
Blood Sugar Tolerance	...	...	...	68
Blood Uric Acid	...	...	...	157
Blood Cholesterol	...	...	...	154
Blood Sed. Rate	...	...	...	236
Urea Clearance	...	...	...	8
Urea Concentration	...	...	...	4
Icteric Index Van der Berghs	...	...	...	35
Takata Ara Test	...	...	...	1
Packed Cell Volume	...	...	...	189
Aspirated Fluids	...	...	...	4
Cerebral Spinal Fluids	...	...	...	17
Throat Swab for K.L.B.	10
Scrapings for Fungi	1
Gastric Analysis	6

Total	41,605
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